

# **Record of Decision**

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## **US 6**

**From I-15 in Spanish Fork to I-70 in Green River  
Utah, Wasatch, Carbon and Emery Counties, Utah**

Federal Highway Administration  
Utah Department of Transportation

in cooperation with  
U.S. Fish and Wildlife Service  
U.S. Army Corps of Engineers  
Bureau of Land Management  
U.S. Forest Service

UDOT Project No. SP-0006(51)172

FHWA-UT-EIS-04-1-F

December 22, 2005



## 1.0 Decision

The Federal Highway Administration (FHWA) hereby approves the selection of the Four Lane Alternative for US 6 from I-15 in Spanish Fork to I-70 near Green River, Utah, as identified in the Final Environmental Impact Statement (Final EIS) dated September 2005. This approval constitutes FHWA's acceptance of the Four Lane Alternative (Selected Alternative) alignment for US 6 from I-15 in Spanish Fork to I-70 in Green River and completes the approval process for the environmental evaluation. In addition, the Peerless Port of Entry Alternative at the proposed Spring Glen interchange (MP 234.5) was selected as part of the Four Lane Alternative (Selected Alternative).

This Record of Decision presents the basis for a decision to implement a transportation project consisting of two travel lanes in each direction for a total of four travel lanes through the entire length of the corridor, except for certain areas near wetlands where the passing-lane configuration (two or three lanes) would be implemented to minimize or avoid wetland impacts. The FHWA has carefully reviewed all concerns in the course of approving the Selected Alternative and has concluded that this alternative reasonably maximizes the transportation benefit, minimizes environmental impacts, and effectively meets the project's purpose and need.

This Record of Decision is issued under the requirements of Chapter 40 of the Code of Federal Regulations (CFR) 1502.2 and Chapter 23 CFR 771.127. The following information in this Record of Decision is based on the information presented in the US 6 Final EIS prepared by FHWA and the Utah Department of Transportation (UDOT) and released for public review during September and October 2005. The Final EIS and the entire project record are available for review upon request to the FHWA Utah Division. Agencies cooperating with the preparation of the US 6 EIS include the U.S. Army Corps of Engineers (USACE), the U.S. Fish and Wildlife Service (USFWS), the U.S. Forest Service, and the Bureau of Land Management (BLM).

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## **2.0 Alternatives Considered (Page 2-1 of the Final EIS)**

The purpose of the US 6 roadway project is to upgrade existing design elements to current design standards to improve safety as much as possible; reduce fatal crossover accidents; reduce traffic congestion by improving the level of service (LOS) to at least LOS C from I-15 to Helper and LOS B from Helper to I-70; allow US 6 to efficiently function as part of the National Highway System by improving the highway so that it continues to adequately serve as the main highway for providing recreational, economic, and interurban and intraurban service for central and southeastern Utah; and improve the safety of truck access to the Peerless port of entry.

This Record of Decision is based on the consideration of all the alternatives that were described and evaluated in Chapter 2, Alternatives, and Chapter 4, Environmental Consequences, of the Final EIS. As part of the initial alternative screening process, potential options were evaluated to determine whether they would meet the project's purpose as described above.

### **2.1 Summary of the Alternative Development Process**

As part of the EIS analysis, a broad array of alternatives was initially considered to address the project's purpose and need. As described in the EIS, both build and no-build alternatives were evaluated. The no-build alternatives considered were the No-Action/Transportation System Management (TSM) strategies, reduce truck traffic, reduce speed limit, mass transit, and a combination of the no-build alternatives. The build alternatives considered were passing lanes, four lanes, and improvements to the Peerless port of entry as part of either build alternative.

#### **2.1.1 No-Action/Transportation System Management Strategies Alternative**

The National Environmental Policy Act (NEPA) requires that the No-Action Alternative be considered to serve as a benchmark against which decision-makers can compare the environmental impacts of the action alternatives. Given that US 6 has numerous geometric deficiencies, it is likely that some improvements would be made to US 6 in the next 30 years. TSM strategies maximize the capacity of the existing roadway system while avoiding the need for major improvements to the existing roadway or the need for a new road.

The No-Action/TSM Alternative would likely consist of improvements such as Intelligent Transportation Systems, better signing and striping of the passing lanes, intersection improvements, better signing of horizontal curves, and adding roadway barriers along the median and shoulders. However, the No-Action/TSM

Alternative cannot address the purpose and need of upgrading existing design to current design standards, reducing fatal crossover accidents, reducing traffic congestion by improving the level of service to at least LOS C from I-15 to Helper and LOS B from Helper to I-70, and maintaining the overall function of US 6 as part of the National Highway System by improving the highway so that it continues to adequately serve as the main highway for central and southeastern Utah.

### **2.1.2 Reduce Truck Traffic Alternative**

The Reduce Truck Traffic Alternative was developed to limit semi-truck traffic in the corridor under the assumption that slow-moving trucks in the uphill sections cause delays for other vehicles, which consequently contribute to congestion and unsafe passing conditions. Under this alternative, trucks would have to be rerouted off US 6 or goods would have to be shipped by rail to reduce the number of trucks using the corridor.

To implement this alternative, state law would need to be revised, since the law currently allows commercial vehicles that conform to Surface Transportation Assistance Act dimensions (large semi-trucks) on all federal-aid primary highways, including US 6. Requiring trucks to detour around US 6 would add distance, time, and expense to freight-hauling trips and the added expense would be passed on to consumers. The alternative would also cause safety issues and economic concerns in the communities along US 6 because truck traffic would be limited to local streets.

Although the level of service in some sections of the corridor would be marginally improved under this alternative, the level of service would be LOS E/D from Spanish Fork to Helper and LOS D from Wellington to I-70, which would not meet the project's purpose and need. Since no portion of US 6 would be reconstructed under this alternative, the existing design elements would not be updated to current design standards and the current safety deficiencies would remain. Therefore, this alternative would not include any design features to reduce fatal crossover accidents, would not meet the level of service requirements, and would not maintain the overall function of US6 as part of the NHS by improving the highway so that it continues to adequately serve as the main highway for central and southeastern Utah.

### **2.1.3 Reduce Speed Limit Alternative**

The Reduce Speed Limit Alternative would reduce the posted speed limit on US 6 to 35 mph (miles per hour). This alternative was studied to determine if alternate routes were available to provide the necessary mobility for the region (the assumption was that motorists would choose an alternate route rather than

US 6 with its 35-mph speed limit) while increasing mobility and improving safety on US 6.

Because the Reduce Speed Limit Alternative would inconvenience drivers, it could shift about 3,500 vehicles per day away from US 6 to other routes such as I-70 and I-15. However, even with fewer vehicles on US 6, the level of service would be LOS F/D from Spanish Fork to Helper and LOS C from Helper to I-70, which would not meet the project's purpose and need. In addition, this alternative also would not maintain the overall function of US 6 as part of the National Highway System by improving the highway so that it continues to adequately serve as the main highway for central and southeastern Utah

### **2.1.4 Mass Transit Alternative**

Mass transit includes reasonable and feasible transit options such as bus service and rail systems, shuttle services, and carpooling. Amtrak and Greyhound currently provide daily service between Salt Lake City, Helper, Price, and Green River. However, both services are designed to primarily serve long-distance passengers and tourist destinations. Also, since these train and bus options are already available, they are not likely to attract many more riders in the future. Data on the level of carpooling in the corridor show that vehicle occupancy rates are already relatively high and substantial increases are not likely.

Vanpool or shuttle service between Salt Lake City, Price, and Moab was also considered as part of this alternative. However, it is unlikely that a shuttle service would reduce traffic volumes in the US 6 corridor to levels that would positively affect the level of service. A passenger shuttle service would likely target recreational travelers, who would probably want to have a personal vehicle at their destination, and vehicle occupancy rates in the corridor are already relatively high.

### **2.1.5 Combination of No-Build Alternatives**

A combination of the no-build alternatives was also considered. The corridor segment specifically examined for this alternative is between US 89 at the Thistle intersection and Soldier Summit because it had the worst level of service under the No-Action Alternative. The combination of no-build alternatives would result in an estimated traffic volume that is comparable to LOS D, which does not meet the project's purpose and need.

### **2.1.6 Passing Lane Alternative**

The Passing Lane Alternative would involve adding passing lanes at certain locations throughout the corridor. In addition, existing design elements would be

upgraded to current design standards to improve safety, and median barriers or other median treatments would be added where appropriate to reduce fatal crossover accidents. Implementing additional passing lanes along US 6 would improve the level of service to LOS C from I-15 to Helper and LOS B from Helper to I-70. However, by the end of the planning period (2030), the level of service would approach unacceptable levels.

In addition, this alternative would upgrade the existing design elements to current design standards and would add median barriers or other median treatments to reduce fatalities associated with crossover accidents. This alternative would also improve the overall function of US 6 as part of the National Highway System so that it continues to adequately serve as the main highway for central and southeastern Utah. Because the Passing Lane Alternative meets the project's purpose and need, it was carried forward for detailed analysis.

### **2.1.7 Four Lane Alternative**

The Four Lane Alternative assumes two lanes of travel in each direction except in certain areas adjacent to wetlands. In these areas, the Four Lane Alternative would match the number of lanes identified as part of the Passing Lane Alternative. Median barriers or other median treatments would be included as part of this alternative. Implementing the Four Lane Alternative would improve the level of service to LOS C from I-15 to Helper and LOS B from Helper to I-70.

In addition, this alternative would upgrade the existing design elements to current design standards and would add median barriers or other median treatments to reduce fatalities associated with crossover accidents. This alternative would provide the most benefit to the overall function of US 6 as part of the National Highway System so that it continues to adequately serve as the main highway for central and southeastern Utah. Because the Four Lane Alternative meets the project's purpose and need, it was carried forward for detailed analysis.

## **2.2 Alternatives Considered for Detailed Study**

### **2.2.1 No-Action/TSM Alternative**

NEPA requires an analysis of the No-Action Alternative. This alternative serves as a baseline for comparison, enabling decision-makers to compare the environmental effects of the build alternatives. The No-Action/TSM Alternative assumed that there would be no capacity improvements to US 6. However, TSM improvements such as implementing Intelligent Transportation Systems, better signing and striping of passing lanes, intersection improvements, better signing

or horizontal curves and adding roadway barriers would be incorporated in the No-Action/TSM Alternative.

### **2.2.2 Passing Lane Alternative (Environmentally Preferred Alternative)**

The Passing Lane Alternative would add passing lanes at selected locations along the corridor (see Table 2.2-3, Passing Lanes by Milepost for Each US 6 Corridor Segment, on page 2-26 of the Final EIS). In addition, existing substandard design elements would be upgraded to current design standards to improve safety, and median barriers or other median treatments would be added where appropriate. The Passing Lane Alternative would provide four-lane sections in areas where passing is required on both sides of the highway to improve the level of service. In Helper, Price, and Wellington, there would be a center turn lane without a median barrier to allow left turns in developed areas that require residential and business access. Other segments of the highway would be three lanes or two lanes.

Using 2030 traffic projections, this alternative would improve the level of service to LOS C or better in all segments between I-15 and Helper, and LOS B or better in the segments between Helper and I-70. Although all segments of the Passing Lane Alternative would have acceptable levels of service (LOS C or better from I-15 to Helper, and LOS B or better from Helper to I-70), several segments would be close to unacceptable level of service thresholds and could require improvements shortly after the 2030 planning period.

The Passing Lane Alternative was also considered the Environmentally Preferred Alternative by USACE because it would impact slightly less wildlife habitat (615 acres compared to 713 acres for the Four Lane Alternative), would result in a smaller increase in impervious surface area (a 68% increase compared to an 85% increase for the Four Lane Alternative), and would create less of a barrier for wildlife crossing the highway. Other impacts from the Passing Lane and Four Lane Alternatives, such as wetland impacts, would be similar for both alternatives.

The Passing Lane Alternative was not selected because a few segments of the highway would approach unacceptable level of service thresholds by the end of the 2030 planning period, which would require additional highway investment; the alternative would result in slower emergency response times than the Four Lane Alternative; the alternative would provide less overall benefit to the function of US 6 as a major rural highway; and the alternative had substantially less public support than the Four Lane Alternative.



### 2.2.3 Four Lane Alternative (Selected or Preferred Alternative)

The Four Lane Alternative would include two travel lanes in each direction for a total of four travel lanes through the entire corridor, except for certain areas near wetlands where the passing-lane configuration would be implemented to minimize or avoid wetland impacts (see Table 2.2-6, Locations of Passing Lanes by Milepost for Each US 6 Corridor Segment as Part of the Four Lane Alternative, on page 2-36 of the Final EIS). In these areas, the alignment would consist of three or two lanes. Median barriers or other median treatments would also be included as part of this alternative. Using 2030 traffic projections, this alternative would improve the level of service to LOS C or better in all segments between I-15 and Helper, and LOS B or better in the segments between Helper and I-70. In addition, the Four Lane Alternative would continue to provide an adequate level of service beyond the 2030 planning period.

The selection of the Preferred Alternative (Four Lane Alternative) was based on public input during the scoping process and during the Draft EIS and Supplemental Draft EIS comment periods, on the alternative's ability to meet the objectives of the project's purpose and need, and on FHWA's desire to ensure that the highway investment can meet future travel demand requirements beyond the 2030 planning period. Both the Passing Lane and Four Lane Alternatives would meet the purpose and need objectives described in Chapter 1 Purpose of and Need for Action, of the Final EIS. However, as noted in Section 2.6.3.1, Primary Advantages of the Four Lane Alternative, the Four Lane Alternative would provide the greatest benefit to the overall function of US 6 because it would reduce congestion and improve recreation access, mining access, mobility, and commerce more than the Passing Lane Alternative. In addition, emergency response providers have stated that the additional lanes provided by the Four Lane Alternative would decrease response times and make response runs safer.

The environmental impacts of the two build alternatives are similar, (particularly when considered in the context of the project's regional setting), with the main difference being the total number of acres of wildlife habitat affected. Although the impacts to vegetation and wildlife habitat adjacent to the US 6 corridor would be slightly greater under the Four Lane Alternative, overall, when all resources are considered, the impacts of the Four Lane Alternative are similar to those of the Passing Lane Alternative. The Four Lane Alternative would impact 1% more vegetation and 1% more wildlife habitat and associated vegetation cover types than the Passing Lane Alternative. Both alternatives would impact an equal amount of big game seasonal use range (0.2%).

### 2.2.4 Port of Entry

The Peerless port of entry would be relocated as part of either build alternative. As described in Chapter 1, Purpose of and Need for Action, of the Final EIS, the current location of the Peerless port of entry (Milepost [MP] 231) requires westbound trucks to cross the highway to enter and exit the facility. The port of entry is also located at the bottom of a long, steep downgrade that causes eastbound trucks' brakes to heat up and increases their stopping distance. In addition, the current port of entry cannot handle a large amount of two-way truck traffic, which causes trucks to sometimes back up onto the highway. When the line of trucks extends onto the highway, port of entry officials allow the trucks to bypass the weigh scales to minimize the traffic hazard. The port of entry alternatives developed to meet the purpose and need of the project include:

- No-Action (carried forward for a baseline comparison)
- Mobile Unit
- Virtual/Electronic Port of Entry

#### **No-Action**

The No-Action Alternative is a "do-nothing" alternative in which the port of entry would remain at its current size and location. The No-Action Alternative would be viable only if the section of US 6 where the port is located is also not reconstructed, since reconstructing US 6 to current standards would require taking substantial right-of-way from the port's location, which would make the current facility inoperable. The No-Action Alternative does not meet the project's purpose and need of improving safety and truck access to the port of entry. However, as required by NEPA, the No-Action Alternative was carried forward for detailed analysis.

#### **Mobile Unit**

Several comments received during the public and agency involvement process recommended vacating the current port of entry and instead using a mobile unit. However, the scales on a mobile unit are not level, so triaxle trucks (often used by the coal industry) cannot weigh in properly. One of the main reasons that the current Peerless port of entry is located on US 6 is to monitor coal-truck traffic on the highway. A mobile unit could not be used for this purpose, since the triaxle trucks couldn't be weighed properly.

Although safety could possibly be improved with a mobile unit by placing it in a highway location with fewer design deficiencies, truck traffic in one direction would still have to cross the highway unless the mobile unit served traffic in one direction only. Since this alternative does not meet the purpose and need of

improving safety and truck access to the port of entry, it was not carried forward for detailed study.

### **Virtual/Electronic Port of Entry**

This alternative includes either retaining the Peerless port of entry for eastbound traffic and implementing virtual electronics with ramps for westbound traffic, or vacating the Peerless port of entry and implementing virtual electronics with ramps in both directions, either at two separate facilities or at one facility located in the median of US 6.

A virtual/electronic port of entry allows precertified trucks with transponders to bypass ports of entry, which allows the port of entry to focus on non-verified trucks. As a truck approaches a weigh station, a transponder mounted on the truck sends a signal to an electronic scale embedded in the roadway, and the truck is electronically identified and weighed.

The following four options for replacing the Peerless port of entry were studied. All options include a virtual/electronic transponder component with new ports of entry. Note that virtual/electronic transponders would *not* be required. If trucking companies choose not to equip their trucks with transponder systems, their trucks would have to stop at the ports of entry to be weighed.

#### **Option 1 – Retain Peerless Port of Entry for Eastbound Traffic Only and Implement New Port of Entry with Virtual Transponders for Westbound Traffic**

In order to retain the current port, this section of US 6 would probably not be reconstructed according to current standards, since this would require taking substantial right-of-way from the port of entry property. Due to the natural topography in this segment of the corridor, US 6 could be widened only toward the port, since the Union Pacific Railroad tracks and Price River abut US 6 to the north. Even if US 6 remained a two-lane section through this segment, the new roadway with standard shoulders would probably have only enough room to accommodate scales and not enough room for trucks to pull over, since the new two-lane typical section calls for median barriers and full shoulders. Since this option does not meet the project's purpose and need of improving safety and truck access to the port of entry, it was not carried forward for detailed study.

#### **Option 2 – Vacate Peerless Port of Entry and Implement New Ports of Entry with Virtual Transponders on Both Sides of the Highway**

This option would be similar to Option 1, except that the Peerless port of entry would be relocated and two new facilities with virtual transponder systems would

be implemented in both directions. By relocating the current port, US 6 could be reconstructed to meet current geometric and safety standards. Each of the new facilities would also include scales for trucks that are not equipped with transponders.

The following locations are proposed for this option:

- **MP 234.8.** The port of entry would serve eastbound traffic only and would be located on the west side of US 6. This location would be built with an area for trucks to pull off for weighing and future port facilities could be accommodated later if warranted.
- **MP 239.5.** The port of entry would serve westbound traffic only and would be located on the east side of US 6. This location would be built with an area for trucks to pull off for weighing, and future port facilities could be accommodated later if warranted.

### **Option 3 – Vacate Peerless Port of Entry and Implement New Port of Entry with Virtual Transponders in Conjunction with the Proposed Spring Glen Interchange (Selected Alternative and Environmentally Preferred Alternative)**

As part of this option, the port of entry would be associated with the proposed Spring Glen interchange in south Helper. Trucks would exit at the new interchange ramps, pass through the transponder station (or through the weigh scales if trucks are not equipped with transponders), and then merge back onto the highway using the interchange on ramp. Since this facility would initially be built as a transponder facility, no pullout areas for trucks would be included in the design. Also, since the port would be included as part of the interchange, additions to the facility would not be possible in the future. Since this alternative meets the project's purpose and need of improving safety and truck access to the port of entry, it was carried forward for detailed study.

The proposed location for this option is MP 234.5. Both sides of US 6 would be equipped with transponders. This alternative was chosen as the Selected Alternative because it avoids Section 4(f) impacts (Option 2 had one Section 4(f) impact; see Section 3.0, Section 4(f), of this Record of Decision), avoids wetland impacts (Option 2 had 0.14 acre of wetland impacts), and has operational characteristics similar to those of the other port of entry alternatives. Other environmental impacts between the port of entry options are similar.

**Option 4 – Vacate Peerless Port of Entry and Implement New Port of Entry in the Center Median of US 6 with Ramps and Virtual Transponders in Both Directions**

This alternative would be similar to Option 3, except that the Peerless port of entry would be relocated and a new facility in the center median of US 6 would be implemented with ramps and virtual transponders in both directions. A center median port of entry could serve trucks in both directions without requiring trucks to cross the highway. However, center median facilities require trucks to accelerate and decelerate into the fast lanes to enter and exit the port, which still poses safety hazards. Since this option does not meet the purpose and need of improving safety and truck access to the port of entry, it was not carried forward for detailed study.

### 3.0 Section 4(f) (Page 5-1 of the Final EIS)

Section 4(f) of the Department of Transportation Act of 1966 applies to the use by a transportation facility of land from a publicly owned park, recreation area, wildlife/waterfowl refuge, or land in a historic site of national, state, or local significance as determined by the officials having jurisdiction over that land. Chapter 5, Section 4(f) Evaluation, of the Final EIS provides a detailed discussion of the Section 4(f) resources within the project study area, the impacts to these resources from the various alternatives, and approaches to avoiding and minimizing impacts to those resources. Based on the 4(f) evaluation, both build alternatives considered for the US 6 project would have the same overall net harm to Section 4(f) resources in the study area.

FHWA determined that the Selected Alternative would result in the use of 11 historic architectural properties. The use of 10 of the historic architectural properties would be partial property takes (strip takes) that would convert strips of land along the frontage of the historic property to UDOT right-of-way. The use of the remaining historic property would consist of a total property take (parcel take). FHWA and UDOT, with the concurrence of the Utah State Historic Preservation Office (SHPO), determined that, under Section 106 of the National Historic Preservation Act (NHPA), the impacts from the project would have No Adverse Effect to 7 of the 11 historic architectural properties, an Adverse Effect to 3 of the historic architectural properties, and No Effect to 1 historic architectural property.

The Selected Alternative would also result in the use of 12 archaeological sites. Many of these sites are long, linear features such as canals, rail alignments, and highway alignments such as historic US 6. Although widening US 6 would result in additional use of these sites, it would use only small portions of these linear features. These historic sites have had most of their features (such as the rail equipment and highway pavement) removed, so the importance of these historic properties is generally limited to their integrity of location. FHWA and UDOT, with the concurrence of SHPO, determined that under Section 106 the impacts from the project would have an Adverse Effect to 7 of the archaeological historic sites and No Adverse Effect to the other 5 archaeological sites.

FHWA has determined that there is no feasible and prudent alternative to the use of the land from these properties and sites and that the Selected Alternative includes all possible planning to minimize harm to these Section 4(f) properties and sites. These findings are explained in Chapter 5, Section 4(f) Evaluation, of the Final EIS and are summarized below.

### **3.1 Consideration of Avoidance Alternatives (Page 5-16 of the Final EIS)**

If the build alternatives would use the land from a 4(f) property, it is necessary to evaluate alignment alternatives that avoid these properties. Although the No-Action Alternative would not have any impacts to Section 4(f) properties, it does not meet the project's purpose and need and so was not considered prudent and feasible. Total avoidance alternatives were considered for the Passing Lane and Four Lane Alternatives, including both an off-corridor alignment and a new alignment within the existing US 6 corridor.

#### **3.1.1 Consideration of a New Off-Corridor Avoidance Alternative**

A new alignment off the existing US 6 corridor would require suitable terrain without steep slopes at an elevation that would minimize winter driving impacts. Any new highway in this area would have to cross the Wasatch Plateau, which has snow for 5 to 6 months of the year in addition to several Section 4(f) resources that would likely be impacted by an off-corridor alignment. In addition, the topographic and human-made constraints of US 6 between Spanish Fork and Helper limited the options for a new off-corridor alignment. Any new alignment would affect the streams adjacent to the highway and would also require either moving the railroad tracks or making large cuts in the canyon walls.

Between Helper and Wellington, any new alignment would have to be placed through these communities and would cause a number of relocations, including many relocations affecting 4(f) resources. South of Wellington, the highway is in open desert terrain where an off-corridor alignment would cross public lands. These public lands, administered by BLM, are used for a variety of activities and in some cases are considered 4(f) resources as described on page 5-17 of the Final EIS. This segment of the corridor is also close to numerous archaeological resources, many of which might be 4(f) resources, as well as the BLM Turtle Canyon and Desolation Wilderness Study Areas.

#### **3.1.2 Consideration of a New In-Corridor Avoidance Alternative**

The existing US 6 alignment was used as a starting point for a new in-corridor avoidance alternative. Where the highway was widened or curves were improved, any new pavement was placed adjacent to the existing pavement to avoid 4(f) resources and sensitive environmental resources. An additional constraint on developing avoidance alternatives is the linear nature of some 4(f) properties, such as canals and rail alignments, many of which are perpendicular to US 6. Where a linear 4(f) resource crosses US 6 perpendicularly, shifting the alignment in either direction would simply move the crossing to another point

along the 4(f) resource. Therefore, at some locations it was not possible to completely avoid the linear features. As discussed in Section 5.4, Avoidance Alternatives for Section 4(f) Properties, of the Final EIS, individual avoidance alternatives were developed for the architectural properties and archaeological sites that would be used by the US 6 project alternatives.

### **3.2 Measures to Minimize Harm to Section 4(f) Properties (Page 5-36 of the Final EIS)**

As described in Section 5.5 of the Final EIS, Measures to Minimize Harm to Section 4(f) Properties, several design measures were implemented during the design process to initially avoid 4(f) resources. Such measures included implementing alignment shifts, minimizing the construction limits, reducing the typical section, reducing the median width, and installing walls. Section 5.5, Measures to Minimize Harm to Section 4(f) Resources, on page 5-36 of the Final EIS provides details on each specific design measure to minimize harm to Section 4(f) resources.

A Memorandum of Agreement (MOA) was developed and signed by FHWA, UDOT, SHPO, and the consulting parties for the Selected Alternative. A copy of the signed MOA is included in Appendix G, Cultural Resources, of the Final EIS. Mitigation measures in the MOA include archival documentation to state standards for adversely affected historic and architectural properties and for archaeological sites that are eligible under Criteria A or C. The MOA also stipulates archaeological data recovery for adversely affected archaeological sites and staking, testing, and monitoring for certain archaeological sites that are within 15 feet of the area of effect and/or are minimally impacted along their margins. Temporary fencing will be placed on unaffected portions of sites to prevent workers and equipment from accidentally encroaching on the site during construction. Native American monitoring of construction is also included in the MOA.

If any cultural resources are encountered during construction, construction will immediately stop in the vicinity of the discovery, and any materials will be evaluated according to UDOT Standard Specification 01355, Part 1.10.



## **4.0 Measures To Minimize Harm from the Selected Alternative**

As the Selected Alternative for this project was developed and reviewed through the NEPA process, the alignment underwent numerous changes to minimize adverse environmental impacts. Many potential impacts were eliminated or reduced by adjusting the alternative and /or avoiding sensitive resources. The remaining impacts associated with project construction and operation will be minimized by following the current UDOT standard specifications for road and bridge construction and implementing a variety of project-specific mitigation measures. The environmental impacts of the Selected Alternative were evaluated in a qualitative as well as quantitative manner in Chapter 4, Environmental Consequences, of the Final EIS. Both beneficial and adverse impacts were evaluated and, where necessary, mitigation measures were developed. The impacts associated with the port of entry were analyzed as part of each resource evaluation.

FHWA will work closely with UDOT to ensure that all practical measures to avoid or minimize adverse impacts related to the Selected Alternative will be implemented. The following measures, which are described in detail in the referenced sections of the Final EIS, have been identified.

Implementing the Selected Alternative will result in construction period (short-term) impacts and impacts associated with long-term operation of the project. FHWA has determined that the measures described below are appropriate to mitigate for the Selected Alternative and will be implemented. UDOT will administer implementation of all the mitigation measures described in the Final EIS, and FHWA will ensure that they are properly implemented via the monitoring and enforcement program discussed in this Record of Decision (Section 5.0).

### **4.1 Land Use (Page 4-5 of the Final EIS)**

Only minor impacts to land use are anticipated from the Selected Alternative. Until a construction contractor is selected for improvements, the exact location of staging areas and construction borrow areas is unknown. However, if any construction staging or construction borrow activities take place on BLM-administered or Forest Service-administered public land, the appropriate coordination and/or permit would be required. FHWA recommends that construction-related activities occur within previously disturbed areas and that materials are not excavated within BLM-designated Wilderness Study Areas.

## **4.2 Farmland (Page 4-17 of the Final EIS)**

UDOT will work with each farm owner on a case-by-case basis to determine the farm's eligibility for benefits under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (URAA). Generally, UDOT will provide compensation for the expense of re-establishing farm enterprises and for fair market value of the buildings and land.

### **4.2.1 Grazing Allotments**

Seventeen grazing allotments would be directly affected by the Selected Alternative; however, only small portions of existing range within the right-of-way would be eliminated and no overall impact on livestock operations is expected. The Selected Alternative would cause a total reduction of 372 grazing acres and about 12 animal-unit months (AUMs; the amount of forage required to sustain one cow for one month). In addition, the Selected Alternative would bisect some grazing allotments, which could cause indirect impacts because grazing the remaining smaller parcel would not be practical.

Before construction begins, the parts of the grazing permits directly affected by the Selected Alternative will be terminated and, if necessary, the State of Utah will review each permit holder's impacted AUMs and other land improvements on a case-by-case basis to determine potential compensation.

## **4.3 Social Environment (Page 4-26 of the Final EIS)**

### **4.3.1 Environmental Justice Populations**

Some environmental justice populations are found in Helper, Price, and Wellington adjacent to US 6. However, with respect to Executive Order 12898 (Environmental Justice), construction and operation of the Selected Alternative will not result in disproportionately high or adverse effects on minority or low-income populations in the study area. During the scoping process, residents of Price noted that the lack of sidewalks and handicapped-accessible areas under the west Price interchange prevents low-income and disabled persons who use motorized wheelchairs from accessing Castleview Hospital. Because of residents' safety concerns associated with the lack of sidewalks, crosswalks, or handicapped-accessible areas, improvements to the west Price interchange will be included in this project. These improvements include adding sidewalks to the roadway under US 6 and connecting the existing sidewalks east of US 6. These sidewalks will be designed to current American Association of State Highway and Transportation Officials (AASHTO) standards and will include handicapped-accessible curbs where needed.

#### **4.3.2 Public Facilities**

Properly placed, signed, and striped pedestrian crossings will be incorporated into the final roadway design for the specific areas on US 6 through Wellington that would be widened to four lanes, including near the Church of Jesus Christ of Latter-day Saints at 935 E. Main Street and near the new post office, if it is relocated along US 6.

#### **4.3.3 Recreation**

Although no impacts to the existing Great Western Trail would occur from the Selected Alternative, UDOT will work with the Utah Department of Natural Resources during final design to provide improved access to the Great Western Trail at the existing Tucker rest area.

#### **4.4 Relocations (Page 4-46 of the Final EIS)**

The Selected Alternative would require the relocation of 15 residences and 7 businesses. Assistance and re-establishment expenses will be provided to the displaced property owners and lease holders according to the eligibility requirements and other requirements of the URAA. The Selected Alternative would also require the relocation of 7 farmland parcels. UDOT will work with each farm owner on a case-by-case basis to determine the owner's eligibility for benefits under the URAA.

#### **4.5 Economics (Page 4-53 of the Final EIS)**

Access to businesses will be maintained during the construction and post-construction phases of this project. Adequate signage will be placed in construction areas to direct motorists to businesses and industrial areas. The businesses displaced by the project will be relocated according to URAA guidelines as explained in Section 4.4, Relocation Impacts, of the Final EIS.

#### **4.6 Air Quality (Page 4-66 of the Final EIS)**

Results of air quality modeling conducted for the EIS demonstrated that the Selected Alternative would not exceed air quality standards.

Although no air quality impacts are expected from operation of the Selected Alternative, construction would cause short-term temporary air quality impacts. Air emission mitigation measures for construction will be included in the Air Quality Approval Order issued by the Utah Division of Air Quality prior to construction. As part of the order the construction contractor will be required to

develop an Emission Control Plan. Mitigation measures will include the following:

- **Fugitive Dust Control.** The contractor will maintain a fugitive dust control program. This program will include wetting excavation areas, unpaved parking and staging areas, and onsite stockpiles of debris, dirt, or dusty material.
- **Street Sweeping.** The contractor will use street-sweeping equipment at paved site access points.
- **Equipment Emissions.** The contractor will shut off construction equipment when it is not in direct use to reduce idling.

The following other mitigation measures could be implemented to minimize air quality impacts:

- Use newer, “cleaner” construction equipment.
- Install control equipment on diesel construction equipment (particulate filter/traps, oxidizing soot filters, oxidation catalysts, and other appropriate control devices to the extent that is technically feasible).
- Reroute truck traffic away from schools or communities when possible.
- Evaluate the use of alternative engines and diesel fuels such as electric engines, engines using liquefied or compressed natural gas, diesel engines that meet U.S. Environmental Protection Agency (EPA) 2007 regulations, diesel engines fueled with low-sulfur fuel, and diesel engines outfitted with catalyzed diesel particulate filters and fueled with low-sulfur (less than 15 parts per million [ppm] sulfur) fuel.

## 4.7 Noise (Page 4-90 of the Final EIS)

Mitigation for noise impacts is discussed in Section 4.9.5, Mitigation Measures for Traffic Noise Impacts, of the Final EIS. Two different locations in the project study area qualify for noise walls according to UDOT’s noise abatement policy (*Noise Abatement, UDOT 08A2-1*, revised March 8, 2004). These locations are both in Price. The first is near MP 240.3 east of US 6. An 8-foot-high, 800-foot-long sound wall would reduce projected noise levels by at least 5 dBA (decibels) at six residences and would meet UDOT’s cost criterion. The second location is near MP 243 on the east side of US 6. A 12-foot-high sound wall would reduce projected noise levels by at least 5 dBA at 10 residences and would meet UDOT’s cost criterion. Residents would not be asked their preferences regarding sound walls until the final design of the project(s) in these locations is complete.

All contractors will comply with all state and local regulations relating to construction noise. Measures for reducing construction noise include avoiding construction in residential areas during nighttime hours, locating rock-crushing activities away from residential areas, and placing temporary barriers.

### **4.8 Water Quality (Page 4-96 of the Final EIS)**

#### **4.8.1 Surface Water**

The Selected Alternative would not degrade the water quality of the Price River, the Spanish Fork River, the White River, or Soldier Creek or affect any of the waters' beneficial use classifications. FHWA expects that there would be less sediment production and streambank erosion from US 6 because the existing culverts along US 6 would be improved and because paved shoulders would be added, which would decrease the amount of exposed soil surface. Even with an increased application of de-icers, discharges of total suspended solids (TSS) and total dissolved solids (TDS) would decrease overall because sediment production and streambank erosion would substantially decrease.

As part of the construction process, a Utah Pollution Discharge Elimination System (UPDES) permit will be obtained. As part of the UPDES permit, UDOT will develop plans to monitor waters adjacent to US 6 to determine the success of the mitigation measures. The permit will be developed through coordination between UDOT and the Utah Department of Environmental Quality (UDEQ) before project construction. Permanent erosion protection measures are described in detail on page 4-110 of the Final EIS.

Where practical, vegetated filter strips are planned for 20 feet on one side of the roadway from Spanish Fork to Wellington to treat roadway runoff. Vegetated filter strips are also planned within the 65-foot median and for 20 feet on either side of the roadway from Wellington to I-70. Proper roadway maintenance will further contribute to mitigation for roadway runoff. Best management practices (BMPs) for roadway maintenance are described on page 4-112 of the Final EIS. Several specific problem areas were highlighted on page 4-112 of the Final EIS as requiring the use of BMPs.

As described in Appendix D, Water Resources Data, of the Final EIS, a total of 104 culverts greater than 2 feet in diameter have been identified as requiring replacement, enlargement, or extension. Mitigation measures as described on page 4-113 of the Final EIS are intended to reduce sediment loading and will be applied to stream crossings where roadway construction is required. UDEQ will review all culvert designs to ensure that appropriate erosion-control measures are implemented. For those culverts that have a fisheries resource, other specific

permanent mitigation measures described on page 4-114 of the Final EIS will be enforced.

UDOT might choose to use some stream crossings to allow reptiles, amphibians, small mammals, large game, or cattle to cross under US 6. Specific performance measures for each of these types of crossings are listed in Section 4.12, Water Body Modification and Wildlife Impacts, of the Final EIS. Because performance measures for certain wildlife crossings might conflict, the construction contractor should understand, early in the design phase, all the performance criteria that a stream crossing will have to meet.

The culverts anticipated for this project have not yet been designed or sized. A preliminary analysis was conducted to determine if any large adjustments to culvert sizes would be necessary to pass the 50-year flow, and the vertical profile of the roadway was raised in a few locations. The vertical profile for the build alternatives will generally accommodate culvert sizes to pass the 50-year flow. However, during the design phase, the construction contractor will consult with the agencies, and the profile might need to be adjusted at that time. Raising the vertical profile of the roadway could affect the footprint. The list of stream crossings in Appendix D, Water Resources Data, of the Final EIS includes some conceptual culvert data.

#### **Permanent Mitigation Measures for Surface Water Impacts (Page 4-109 of the Final EIS)**

Mitigation measures were determined by consulting with the water quality agencies (Spanish Fork Coordinated Resource Management Team, the Colorado River Salinity Forum, Utah Department of Environmental Quality, Utah Department of Natural Resources, Environmental Protection Agency, Bureau of Land Management, and U.S. Forest Service), UDOT, and hydraulic engineers who are familiar with the study area. All final culvert designs will be reviewed by the Utah Division of Water Quality prior to construction to ensure that erosion-control measures are implemented. The mitigation measures focus on reducing erosion rather than treating actual runoff from the roadway because there is a greater potential for reducing TSS, TDS, and phosphorous loading from erosion than from treating highway runoff.

Mitigation measures are presented in the form of performance measures instead of specific designs. A few site-specific locations for mitigation were identified by the water quality agencies. Mitigation measures will be listed as requirements in applicable state and federal stormwater permits. UDEQ strongly suggests using *The Practical Streambank Bioengineering Guide* as a guide to applicable stabilization BMPs. In addition, guidance found in the USFWS *Recommended*

*Best Management Practices for Work in Utah Streams* (August 18, 2003) will be reviewed prior to construction.

As part of the final UPDES permit for the project, UDOT will develop plans to monitor waters adjacent to US 6 to determine the success of the mitigation measures. The permit will be developed through coordination between UDEQ and UDOT before project construction and might take up to 6 months to finalize.

#### **Permanent Erosion Protection**

The following mitigation measures are aimed at reducing erosion and apply to all areas along the project that are proposed for construction.

- **Vegetation.** Re-establish native vegetation in all disturbed areas in the right-of-way. Vegetation density after construction will exceed the density of cover before the project was constructed.
- **Stream Banks.** Protect and stabilize eroding stream banks within the right-of-way through the use of log gabions, rock gabions, riprap, turning rocks, cobbles and boulders, or other means. Establish native woody vegetation where possible. UDEQ recommends that all alternative streambank stabilization methods be considered before using riprap, including bioengineering practices.
- **Cut-and-Fill Slopes.** Provide erosion control on all cut-and-fill slopes through applying geotextiles such as erosion control blankets, compost, or mulch to the slope, or other means. Establish native vegetation on the slope where possible. Until vegetation is established, route stormwater around the top of all cut-and-fill slopes to prevent discharging water onto the slope. If establishing vegetation is not possible, permanently route stormwater around the top of the slope and collect runoff at the base of the slope. Runoff at the bottom of the slope will be collected in detention basins or channels with check dams designed to handle the 10-year, 24-hour storm design velocity.
- **Filter Strips.** Where possible, on cut-and-fill slopes and other locations within the road right-of-way, filter strips will be used. This UPDES BMP will implement grassed filter strips at least 20 feet long at a slope of 5% or less with permeable soils. Under those conditions, the BMP is expected to remove the following constituents:
  - Suspended sediment      20–40%
  - Total phosphorus          >20%
  - Total nitrogen            >20%
  - Trace metals              20–40%

- **Vegetated Channels.** Where runoff is channelized, provide permanent erosion protection with established vegetation. Repair existing channel erosion within the right-of-way.
- **Alternate Mitigation.** An alternate method of reducing sediment loading is installing check dams or compost-filled socks in existing erosion gullies upstream of US 6 and outside the US 6 right-of-way. UDEQ recommends using additional methods of reducing sediment loading such as pole or post plantings, brush mattress, fiberschine, brush layering, brush trench, willow wattles or fascines, or erosion-control fabric. The alternate mitigation measure can replace any of the above mitigation measures through coordination with USFWS, the Utah Department of Natural Resources, BLM, and the UDOT Region 3 and 4 Landscape Architects.

#### **Roadway Runoff Treatment**

Due to the steep grades, concerns with concentrating stormflows, maintenance issues, and erodible soils in the project area, treatment facilities for the highway runoff such as vegetated swales or detention basins from the highway might be difficult to implement and are not recommended. Detention ponds do not remove TDS, which is a concern for the listed waters of Utah Lake and Soldier Creek.

To address roadway runoff treatment, vegetated filter strips are planned. This drainage system allows stormwater to sheetflow off the highway over vegetated areas wherever it is practical. In addition, runoff from sections of the road proposed for construction in this EIS that drain into the Price River above the water treatment plant will sheetflow over at least 50 feet of vegetation where possible. These mitigation measures will be applied at locations where roadway improvements are planned.

- Vegetated filter strips are planned for 20 feet on one side of the roadway from Spanish Fork to Wellington (MP 172 to MP 245).
- Vegetated filter strips are planned within the 65-foot median and for 20 feet on either side of the roadway from Wellington to I-70 (MP 245 to MP 300).

#### **Roadway Maintenance**

A large reduction in TDS can be achieved by following proper roadway maintenance procedures. As noted in Chapter 6 of the UDOT Stormwater Management Plan UPDES Phase II measures, pollution prevention and good housekeeping can prevent and reduce pollutants from being discharged to



downstream waters. UDOT has standard operating procedures for roadway maintenance (see Section 3.10.1.7, De-icing Operations, of the Final EIS). Proper roadway maintenance BMPs are as follows:

- **Snow Removal and De-icing Practices.** Apply only the minimum quantity of de-icing agent necessary to remove ice from roadway facilities. Provide training to employees and document training efforts.
- **Salt Pile Storage.** Properly cover stockpiles of salt to prevent storm runoff from contacting the material and migrating to downstream drainage facilities and receiving waters.
- **Street Sweeping.** Remove particulates and debris from paved roadway surfaces. All state paved roadways in urbanized and rural areas will be swept at least once per year. Material collected will be properly disposed of at local landfills. Street sweeping efforts help to remove fine particulate matter and other pollutants before being discharged into storm drain systems and downstream receiving waters.
- **Spill Prevention and Response Plan.** Implement an established set of policies and procedures to provide instruction and guidance in case of hazardous material discharge or spill.

### Key Erosion Problem Areas

The following problem areas have been specifically identified as requiring the use of BMPs and other mitigation to reduce their erosion potential (see Figure 3-15 and Figure 3-16, Existing Sources of Contamination and 303(d) Impaired Waters, of the Final EIS):

- **MP 204 – Tucker Rest Area.** Incised stream channel.
- **MP 223.5 – Ford Creek.** Silted culvert.
- **MP 263 – Iclander Bridge.** Scour and sediment deposition due to obsolete bridge crossing.
- **MP 281.** Problem erosion area due to stream bank instability and channel instability at dry wash.

### Culverts

A total of 104 culverts greater than 2 feet in diameter have been identified as requiring replacement, enlargement, or extension. The following mitigation measures are intended to reduce sediment loading and will be applied to stream crossings where roadway construction is required. UDEQ will review all culvert

designs to ensure that appropriate erosion control measures are implemented. All requirements established by UDEQ in their stormwater or other construction permits will be followed.

- **Increase Culvert Size.** Increase culvert size to pass the 50-year flow where necessary (UDOT's standards state that stream crossings should pass the 50-year flow). Increasing the culvert size reduces the likelihood that the culvert will become plugged by branches or debris.
- **Reduce Velocity.** Reduce the 10-year, 24-hour storm design velocity at the downstream end of the culvert (downstream of velocity dissipation) to 80% of erodible velocity of the soil, according to site-specific soil data and industry standards. UDOT standards include a minimum velocity of 2 fps (feet per second) to reduce the likelihood of plugging. Based on preliminary data, the erodible velocity of the soils in the study area is greater than 2 fps.
- **Discharge into Alluvial Fans.** Spread flow over a wider area at the outlet end of culverts that discharge into alluvial fans to mimic natural drainage conditions.
- **Align Culverts.** Realign culverts to match the existing channel where possible.
- **Increase the Number of Culverts.** Increase the number of culverts where necessary to mimic natural drainage patterns.
- **Connect Railroad Culverts.** Where possible, provide drop structures or connect the railroad culvert to the US 6 culvert to alleviate erosion problems between the two facilities.
- **Design Riprap.** Use native woody vegetation instead of riprap where possible. Where riprap is necessary, design all riprap to withstand anticipated velocities without causing siltation according to UDOT standards. Design and install a geosynthetic filter under the riprap to minimize the disturbance of fine materials. Engineer the size of the filter based on the sizes of the soil particles sizes on site. Other methods are found in *The Practical Streambank Bioengineering Guide* (USDA 1998).
- **Avoid Culvert Scour.** Provide scour protection according to UDOT standards.
- **Protect from Erosion.** If erosion is evident, provide erosion protection from the downstream end of the culvert to the confluence of the next stream or to the UDOT right-of-way, whichever is closer.

- **Specific Mitigation Locations.**

- **MP 257.7 – Mudsprings Wetland Complex.** Distribute the flow over a larger area by installing multiple culverts. The current system concentrates flow in one culvert.
- **MP 204 – Soldier Creek.** Spread the flow over a wider area at the outlet end of the culvert to mimic natural alluvial fan conditions.

#### **Culverts with Fisheries Resource**

Some of the 104 culverts mentioned in the previous section have a fisheries resource. The following permanent mitigation measures apply to fishery stream crossings, including all perennial streams and intermittent stream crossings that host fish for part of the year. Mitigation measures to reduce erosion will also be applied to fishery stream crossings if the measures will not prevent fish passage. UDEQ will review all culvert designs, including culverts that are required to be fish-passable. The fishery streams are listed in Section 3.10, Water Resources, of the Final EIS. These mitigation measures will be applied only where roadway improvements are planned.

Use one of the following three methods to design and construct culverts:

1. **No-Slope Method (for short culverts only).**

- a. Place the culvert at zero slope with 20% of the culvert diameter or height buried at the downstream end and no more than 40% buried at the upstream end with natural substrate.
- b. Maintain the channel width throughout the culvert. Channel width is defined as the distance between the ordinary high-water marks.

2. **Hydraulic Design Approach.** Design culvert velocities for the 1-year storm flow velocity to be at or below the recommended velocity for the type of fish in the stream. Some guidelines from the U.S. Geological Survey Habitat Suitability Indexes are presented below, though more specific data might be available when the culvert is designed. In general, culvert velocities should be kept below 3 fps (feet per second) in the cold-water sections (Soldier Creek above the Red Narrows and Price River above Helper) and below 1.6 fps in the warm-water sections (everywhere else).

- Brown and cutthroat trout: less than 3.0 fps
- Rainbow trout: less than 2.4 fps
- Black bullhead: less than 1.3 fps
- Colorado pikeminnow: less than 2.0 fps

- Common carp: less than 3.0 fps
- 3. **Stream Simulation Method.** If attaining the recommended design velocity for the fish is not possible, then at minimum do not exceed the velocity in the channel upstream and downstream of the culvert. Graph the velocity downstream and upstream of the culvert against the distance to determine if the culvert velocity meets this criterion. Channel width will be maintained throughout the culvert at 1.2 times the ordinary high-water mark plus 2 feet.

The following mitigation measures apply to all fishery stream crossings:

- **Culvert Alignment.** Realign the culvert to follow the natural channel where possible.
- **Fish Passage.** Limit the size of hydraulic jumps, drop inlets, baffles, and other structures that could prevent fish passage to a height passable by the particular species in the stream. Design the culvert for non-turbulent flow and design hydraulic jumps to a height passable for fish.
- **Stream Banks.** Where streambank stabilization is necessary, use native woody vegetation, if possible, instead of rock or riprap.
- **Stilling Basins.** Stilling basins may be used at the upstream or downstream end of the culvert to reduce the velocity to the allowable velocity for fish passage or for erosion protection. Stilling basins have the added benefit of allowing fish to rest before or after the culvert crossing.
- **Maintenance.** Maintain the culvert free of debris that could prevent fish passage.
- **Specific Mitigation Locations.** Consider replacing the box culverts at MP 249.45 (Soldier Creek) and MP 248.76 (Coal Creek) with bridges. Bridges maintain more of the stream structure, channel stability, stream substrate, and fish habitat than culverts. Furthermore, the existing culverts are not sized to pass the 50-year flow according to UDOT's current standards and cause flooding on private property upstream of the culvert.

#### **Other Uses for Culverts and Bridges**

UDOT might choose to use some stream crossings to allow reptiles, amphibians, small mammals, large game, or cattle to cross under US 6. Specific performance measures for each of these types of crossings are listed in Section 4.12, Water Body Modification and Wildlife, of the Final EIS. Because performance measures for certain wildlife crossings might conflict, the construction contractor

should understand, early in the design phase, all the performance criteria that a stream crossing will have to meet. A list of stream crossings and preliminary design criteria is included in Appendix D, Water Resources Data, of the Final EIS.

### **Vertical Profile and Culvert Sizing**

The culverts anticipated for this project have not yet been designed or sized. A preliminary analysis was conducted to determine if any large adjustments to culvert sizes would be necessary to pass the 50-year flow, and the vertical profile of the roadway was raised in a few locations. The vertical profile for the build alternatives will generally accommodate culvert sizes to pass the 50-year flow. However, during the design phase, the construction contractor will consult with the agencies, and the profile might need to be adjusted at that time. Raising the vertical profile of the roadway could affect the footprint. The list of stream crossings in Appendix D, Water Resources Data, of the Final EIS includes some conceptual culvert data.

### **Compliance with Surface Water Quality Regulations (page 4-116 of the Final EIS)**

Table 3-10.1, Water Quality Regulations for Surface Water, in the Final EIS describes the water quality regulations and compliance measures for surface water that apply to the project.

### **Mitigation Measures for Construction Impacts on Surface Waters (Page 4-119 of the Final EIS)**

The Selected Alternative would disturb more than 1 acre during construction. Therefore, a UPDES permit would be required. This permit will stipulate that the contractor must design and implement measures, including BMPs, to limit the amount of eroded sediment that leaves the work area. BMPs will include the use of UDOT standard drawings for temporary erosion control (Drawings 1010–1014A in UDOT Standard Specifications). Examples of temporary BMPs that could be included in the UPDES permit for construction includes silt fences, silting basins, retention ponds, check dams, and slope drains.

Specifically, the following mitigation measures will be included in the project:

- **Staging Areas.** Locate staging areas in areas where vegetation is not established, or in areas that will be disturbed for other purposes such as cut and fill, if possible. Place compost-filled socks or silt fences on the downstream end of all staging areas. In addition, other methods such as fiber mulching, check dams, forming irregular pock-marked surfaces,

and maintaining or restoring soil permeability could be used to control erosion and sustain hydrology.

- **Earth-Disturbing Activities.** To prevent the mobilization of soils, route drainage around areas where the earth has been disturbed. Leave the surface of disturbed areas undulating with localized depressions where possible to retain runoff within the disturbed area. The contractor will consider mulching the soil surface or adding organic matter to soils to reduce erosion. Stabilization measures will be incorporated on disturbed surfaces in accordance with UPDES Permit requirements.
- **Cut-and-Fill Slopes.**
  - Route drainage around the top of cut-and-fill slopes to prevent it from flowing down the slope.
  - Collect runoff from cut-and-fill slopes in a sloped ditch or detention pond at the bottom of the slope. Place check dams in the ditch to remove sediments.
- **Limit Turbid Discharges.** Do not allow visibly turbid water to be discharged from the construction site. Use silting basins, ditches, check dams, compost-filled socks, or other means to remove sediments from surface water before discharging it offsite. If visibly turbid water is discharged from the construction site, change BMPs to detain sediments onsite more effectively.
- **Winter Shut-Down.** If construction activities are temporarily stopped for winter, take the following measures to prevent erosion from spring snowmelt:
  - Remove loose earth and debris from drainages, floodplains, and stream banks.
  - Route runoff from unvegetated areas to silting basins or ditches with check dams.
  - Do not allow snowmelt to discharge over disturbed or uncompacted soil.
  - Provide erosion protection on all non-vegetated cut-and-fill slopes.

### 4.8.2 Groundwater Rights and Wells

#### Cold Springs Collection System

The Cold Springs Collection System delivers drinking water to the city of Spanish Fork. The pump house for the spring is adjacent to the existing highway at MP 181. The Selected Alternative alignment conflicts with the pump house for

the collection system, and the pump house would have to be relocated. The alignment avoids the chlorination building at MP 179.

#### **Mitigation Measures for Impacts to Cold Springs Collection System (Page 4-123 of the Final EIS)**

Mitigation options for the Cold Spring Collection System include (1) relocating the pump house or (2) abandoning the drinking water source and obtaining another groundwater right to replace the drinking water source. The City of Spanish Fork stated that obtaining another groundwater source was not desirable because the water quality of an alternate source would likely be lower than that of the Cold Springs water. The City also requested that impacts to the collection system be avoided if possible.

An alternate location was developed for the pump house that incorporated mitigation measures requested by the City. This location required more cut-and-fill area, and this area has been included in impacts for other resources. The City requested that the relocated pump house be accessible by pickup truck and that the new road not discharge roadway runoff into the recharge area for the spring. The City also requested that the drainage design prevent hazardous material spills from entering the collection system or the recharge area. Before UDOT begins construction of the segment of US 6 that will affect the Cold Springs Collection System, UDOT will:

- Review the final design and consult with the City to determine if impacts to the Cold Springs Collection System can be avoided.
- If impacts are unavoidable, coordinate with the City regarding the mitigation measures and any conditions that might have changed since the Final EIS was published.
- Submit construction plans to the City so that the City can review the plans for compliance with the proposed mitigation measures and the City's Drinking Water Source Protection plan for Cold Springs.

#### **Mitigation Measures for Impacts to Groundwater Wells (Page 4-124 of the Final EIS)**

Under the Selected Alternative, three groundwater wells would be affected. UDOT will either purchase the groundwater right from the owner or will develop another well and transfer the groundwater right to the new well. If UDOT purchased the groundwater right from the owner, the owner will be responsible for finding another water source.

## 4.9 Wetland Impacts (Page 4-126 of the Final EIS)

Under the Selected Alternative, 7.63 acres of wetlands would be directly impacted (see Table 4.11-1, Total Acreage of Wetland Impacts by Alternative, in the Final EIS). FHWA has altered the highway alignment and design to avoid and/or minimize impacts to waters of the U.S. Avoidance and minimization measures included roadway design that avoided waters of the U.S. through the use of retaining walls, alteration of the cut-and-fill lines, and slight shifts in the alignment. In addition to avoiding and minimizing impacts to waters of the U.S. through highway design, FHWA and UDOT will use a number of BMPs to ensure that wetland/riparian areas are protected from adjacent sediment sources (such as adjacent cut-and-fill activities). The BMPs that will be used to curb soil erosion could include, but are not limited to, the following:

- Silt fencing
- Straw bales or sediment logs
- Geo-fabric (erosion control matting)
- Check dams
- Seeding
- Mulching
- Contour scarification
- Contour strip seeding
- Contour berming
- Pads for construction equipment (to be used in wetland areas)

Additionally, bank stabilization will likely be needed where construction activities overlap with the riparian area. Banks will be stabilized through the use of gabions and/or streambank willow plantings. The Utah Division of Water Quality recommends the use of vegetative or bioengineered materials rather than riprap to control erosion whenever possible.

After construction, wetland/riparian areas will be restored by FHWA and UDOT or a qualified subcontractor. Seed mixes and plantings will vary along the US 6 corridor and will reflect the native species that were present before the area was disturbed. The appropriate seed mixes and plantings will be prescribed on a site-specific basis by the agency land manager when applicable. USACE has recommended that the BMPs listed in the USFWS *Recommended Best Management Practices for Work in Utah Streams* (August 18, 2003) will be used as guidance when working near wetlands.

FHWA and UDOT will require the construction contractor to limit ground and wetland disturbance to the area necessary for the highway improvement. However, if the contractor disturbs more than the area required for improvement,



the contractor will have to mitigate for the impact. To mitigate these temporary impacts associated with compacted soil, wetland areas will be ripped to break up any compacted layers. Where vegetation is disturbed or destroyed, the contractor will reseed these areas with a seed mix of native wetland plants approved by the appropriate agency. Additionally, the contractor will take steps to ensure that noxious weeds are not introduced into wetland plant communities. BMPs required by FHWA and UDOT will require that construction equipment entering the highway construction site be washed to remove noxious weed seeds.

Mitigation will also be implemented along US 6 in the form of replacing and improving culverts. There are many improperly installed culverts along the US 6 corridor. Problems include the following:

- Culverts not installed at-grade (hanging culverts)
- Energy-dissipating structures not installed below culverts
- Culvert diameter too small to allow adequate water to flow through during high-runoff storms
- Not enough culverts to provide hydrologic connection between adjacent wetlands

Replacing incorrectly installed culverts would reduce the potential for extreme soil erosion (gully erosion) and subsequent sedimentation of adjacent stream reaches. Installing energy-dissipating structures and recontouring and revegetating outfall channels below at-grade culverts would reduce water velocity as well as soil erosion and stream sedimentation and could increase the acreage of riparian habitat in affected areas.

Increasing culvert diameters would allow adequate water to flow during high-runoff storms. Increased culvert diameter would also improve hydrologic connections between wetlands divided by US 6. Lastly, increasing the diameter of culverts would encourage wildlife to cross US 6 under the highway.

Mitigation planning was initiated during the initial phases of the EIS. UDOT was consulted to determine what their vision of mitigation sites would be, and an existing, successful mitigation site within the project area was visited. The cooperating agencies in this wetland mitigation plan—USACE, USFWS, and the Utah Division of Wildlife Resources (UDWR)—were all consulted to determine their specific preferences for mitigation site determination and implementation. The following criteria were evaluated for each potential mitigation site:

- Accessibility
- Ease of maintenance

- Available hydrologic source
- Potential wetland acreage created or preserved (to meet in-kind and same-watershed mitigation requirements)
- Potential wetland functions created or preserved

The Conceptual Habitat Mitigation and Monitoring Proposal that details the proposed mitigation sites was submitted to the USACE on July 18, 2005. After a preliminary screening of potential sites by UDOT and USACE, USFWS, and UDWR, five potential mitigation sites were selected. Two potential mitigation sites are located west of Soldier Summit: the Tucker Rest Area mitigation site and the Spanish Fork River Park mitigation site. Three potential mitigation sites are located east of Soldier Summit: the Elmo (Emery County, Utah) mitigation site, the Desert Lake Waterfowl Refuge (Desert Lake), which is near the Elmo site, and the White River mitigation site near Soldier Summit.

Based on correspondence with USACE's Utah Regulatory Office (Appendix D, Water Resources Data, of the Final EIS), US 6 mitigation credits would need to be generated at a ratio of 10:1 for wetland preservation, a ratio of 5:1 for wetland enhancement, a ratio of 3:1 for concurrent mitigation for creation of a new wetland, and a ratio of 1.5:1 for prior mitigation for creation of a new wetland. Wetland functions created would mitigate at a level equal to or greater than the wetland functions impacted, thereby ensuring that wetland functions within the watershed are increased. Based on the ratios from the Utah Regulatory Office, the mitigation sites described in the Conceptual Habitat Mitigation and Monitoring Proposal would satisfy USACE's regulatory objectives by adequately mitigating loss of wetland acreage and wetland functions.

Because impacts are being mitigated by watershed, available mitigation ratios were calculated for each site by dividing the total area of the mitigation site by total impacts within the watershed (east or west of Soldier Summit). Impacts east of Soldier Summit totaled 4.97 acres, and impacts west of Soldier Summit totaled 2.66 acres.

Therefore, west of Soldier Summit, mitigation credit created by the Tucker rest area mitigation site would be 1.43:1 ( $3.80 \div 2.66 = 1.43$ ). Credit created by the Spanish Fork River Park mitigation site would be 3.76:1 ( $10.00 \div 2.66 = 3.76$ ). Mitigation credit for the west side of Soldier Summit thus totals 5.19:1; this credit is adequate to mitigate all wetland impacts in the western drainages.

East of Soldier Summit, mitigation credit created by the Elmo mitigation site would be about 1.59:1 ( $7.9 \div 4.97 = 1.59$ ). Desert Lake mitigation site credits have not yet been determined, but the site could provide mitigation credits comparable to those of the Elmo mitigation site. The White River mitigation

credits have not been determined either, since a specific site has not yet been selected. Nonetheless, FHWA anticipates that mitigation at these sites by creation, enhancement, or preservation would likely mitigate all of the wetland impacts occurring east of Soldier Summit

### **4.9.1 Wetland Mitigation and Monitoring**

Wetland impacts occurring west of Soldier Summit will be mitigated at the UDOT Tucker rest area mitigation site and at the Spanish Fork River Park mitigation site. The majority of these impacts would be associated with the change in road alignment above and below the Tucker rest area. Monitoring at each of these sites will continue for 5 years after mitigation measures are implemented.

Wetland impacts east of Soldier Summit would occur primarily at the Price River crossing at Woodside, Utah, and along the White River reach of the proposed project. Monitoring at the Elmo/Desert Lake and White River mitigation sites will continue for 5 years after mitigation measures are implemented. Mitigation site locations and descriptions, as well as mitigation goals, objectives, cost, timeline, hydrology, vegetation, weed control, erosion control, and maintenance of monitoring are summarized in the Conceptual Habitat Mitigation and Monitoring Proposal.

## **4.10 Water Body Modification and Wildlife (Page 4-150 of the Final EIS)**

### **4.10.1 Vegetation**

Construction of the Selected Alternative would result in the permanent loss of 767 acres of vegetation. The alternative would cause direct and indirect impacts due to removing vegetation, disturbing ground, and possible invasion of weeds associated with road construction. Temporary road construction impacts will be mitigated immediately after construction to prevent permanent effects. Mitigation could include any of the following measures:

- Compacted soils will be ripped, stabilized, and reseeded with native mixes.
- Weed control practices and monitoring will accompany revegetation efforts until the native plant communities are successfully re-established.
- The contractor will be required to follow noxious weed mitigation and control measures identified in UDOT Special Provision Section 02926S, Invasive Weed Control.

- Strictly following BMPs will also reduce the potential for weed infestations.
- Reseeding with native plants, followed by monitoring seedlings and invasive species until the vegetation has re-established, will mitigate direct-disturbance impacts and reduce the potential for weed invasions. UDOT will be responsible for monitoring and determining when vegetation becomes re-established.

### 4.10.2 Fisheries

No long-term direct impacts to aquatic habitats or fisheries are anticipated; therefore, no mitigation measures are proposed. Indirect and short-term, construction-related impacts could be reduced or eliminated through the use of measures outlined in Section 4.8, Water Quality, and Section 4.9, Wetland Impacts.

### 4.10.3 Wildlife

#### Impacts to General Wildlife

The Selected Alternative would cause impacts to general wildlife species. Impacts would occur to riparian communities that support common bird and mammal habitat, migratory birds, and big game. Impacts would be the result of removing habitat, fragmenting of habitat, and the potential for increased wildlife-vehicle strikes. The potential mitigation measures described below have been designed to further minimize or compensate for impacts to general wildlife and big game.

Until the final designs are completed for each specific US 6 improvement, many of the mitigation measures summarized below cannot be fully developed. For example, the exact locations and types of wildlife crossings have not been designed, so the potential impacts of these structures on the environment are only preliminary. Once final designs are complete, the impacts of these mitigation measures will be re-evaluated.

#### Vegetation Measures

Direct impacts to nesting migratory birds and other bird species can be avoided by clearing vegetation between September and February, outside of most birds' breeding, nesting, and brood-rearing season. When it is not possible to clear vegetation from construction sites during this period, a biologist will be onsite during vegetation clearing. If any vegetation is cleared along the project corridor from March through August, UDOT or the construction contractor might be

required to obtain authorization from USFWS to relocate and potentially take migratory birds. If nesting migratory birds are found during clearing, construction will be stopped by the biologist until authorization is obtained from USFWS.

#### **Wildlife Crossing Measures**

Wildlife strikes pose a public safety hazard and reduce the wildlife population. Many factors play an important role in reducing wildlife strikes on highways including median barriers, fencing, and wildlife overpasses and underpasses. FHWA understands that appropriate wildlife mitigation measures are essential to context-sensitive transportation solutions and has developed the mitigation measures below in coordination with USFWS, BLM, and UDWR.

Because the US 6 construction will occur in phases over 20 years, many of the environmental conditions identified in this EIS could change. In addition, wildlife crossing mitigation science could change. Also, many of the specific geotechnical requirements that could alter the design will not be considered until each specific project is identified and the final design is developed. For this reason, it is not practicable to identify specific wildlife crossing mitigation measures for the entire US 6 project. The mitigation identified in this EIS provides options that can take into account existing wildlife patterns and wildlife strike information.

FHWA and UDOT are committed to providing wildlife mitigation as each project is developed. FHWA and UDOT has committed to establishing a wildlife coordination committee consisting of UDOT, UDWR, USFWS, FHWA, the Utah Division of Water Rights, the Utah Division of Water Quality, and USACE. In addition, if the project is crossing land administered by the federal or state government (Forest Service, the State of Utah School and Institutional Trust Lands Administration [SITLA], and BLM), the land manager will be included in the wildlife coordination committee.

UDOT has begun the process of establishing the wildlife coordination committee by having a meeting with the committee in October 2005 and has begun the process of developing a Memorandum of Agreement (MOA). FHWA anticipates that the MOA will be signed by UDOT, FHWA, UDWR, USFWS, the Utah Division of Water Rights, the Utah Division of Water Quality, BLM, SITLA, and the Uinta National Forest. The MOA establishes and describes the function of the wildlife coordination committee. The mission of the MOA is twofold: (1) to improve coordination among the transportation agencies charged with improving US 6, the resource agencies charged with protecting the natural environment, and the regulatory agencies charged with balancing the various public interests, and

(2) to obtain better results from funds spent to compensate for impacts to biological resources.

The MOA specifically outlines the following issues that the wildlife coordination committee will address:

- As stated on page 4-172 of the Final EIS, UDOT and UDWR will agree on the in-lieu fee for critical habitat mitigation.
- Determine the frequency of committee meetings.
- Explore, on a project-by-project basis, all appropriate wildlife mitigation options that are consistent with the policies and guidelines of the agencies and consistent with measures outlined in the Final EIS.
- Help develop mitigation proposals that take into account the extent of the project impacts, the affected habitat values, benefits to the ecosystem, cost effectiveness, and opportunities for coordinating with other conservation efforts.
- Determine the best locations of wildlife crossings.
- Determine the best designs of wildlife crossings.
- Prioritize wildlife crossing locations.
- Additional issues to be considered by the committee include:
  - Consider crossings for many types of wildlife, such as those for big game species, carnivores, small mammals, and amphibians.
  - Determine the locations and types of wildlife fencing and escape ramps.
  - Secure additional funding from the agencies to enhance the mitigation measures.

When project funding for improving a segment of US 6 becomes available, FHWA will meet with the wildlife coordination committee to develop specific mitigation measures for the segment being improved. These measures will take into account current wildlife conditions, the information contained in the Final EIS, UDOT and UDWR wildlife strike information, and project cost. After the release of the Final EIS, UDWR provided UDOT with updated wildlife strike information which has been included in the administrative record. This data will be used by the wildlife coordination committee when developing mitigation measures. The mitigation measures developed by this committee will then be included in the final highway design and construction bid documents for implementation.

### **Mule Deer and Elk Critical Habitat Measures**

In conjunction with the wildlife coordination committee, UDOT will mitigate for impacts to critical seasonal use ranges for mule deer and elk (about 73 acres). The acreages of these critical habitats that are lost due to being paved over will be mitigated at a 1:1 ratio. Mitigation will take the form of an in-lieu fee that UDOT will provide to UDWR for enhancing deer and elk critical ranges in areas near the highway that will compensate for the impacts along the US 6 corridor.

### **Median Barriers Measures**

Section 2.1.2.2, Median Treatments, in the Final EIS evaluates proposed median barriers, including concrete barrier, flexible cable barrier, and semi-rigid guardrail, that could be used along US 6 from Spanish Fork Canyon to Helper. Based on the evaluation in Section 2.1.2.2, the following median barriers are recommended:

- Flexible cable barrier will be used where possible because the design, which is open underneath, allows better visibility and allows small animals to cross through the barrier.
- Semi-rigid guardrail has similar benefits for wildlife as the flexible cable barrier, but has higher initial costs and long-term maintenance costs.
- The use of solid concrete Jersey barriers will be limited to those areas where there is a high potential for crossover accidents, such as a tight corner. If there are areas where Jersey barriers must be used to ensure driver safety, they will have openings (scuppers) in the base to allow small animals to cross through them. If glare deflectors must be used on top of the barriers, they will be installed only for short distances at key locations such as tight corners. Where Jersey barriers are used, 8-foot-high deer fencing will be used to line the corridor to prevent deer and elk from crossing the highway. Depending on the length of these segments, one-way earthen ramps will be used every 0.25 mile to allow deer and elk to exit the corridor if they get caught in the right-of-way between fences.

### **Fencing Measures**

UDWR, the Forest Service, and USFWS have said that 8-foot-high deer fencing should be installed along both sides of the highway corridor from the mouth of Spanish Fork Canyon to Soldier Summit to keep deer and elk from crossing the highway. However, fencing this entire length might not be feasible due to physical constraints such as topography, the proximity of streams and the

railroad, and the number of side roads. In addition, fencing might limit the ability of wildlife to reach important water sources on the other side of US 6. The following fencing measures are recommended:

- Fencing will be used in high-wildlife-migration areas in conjunction with constructed underpasses and overpasses. Eight-foot-high big game fencing along the edges of the US 6 right-of-way will be needed to keep wildlife off the highway and guide them to crossing structures installed along the project corridor. At a minimum, fencing will be installed along both sides of the right-of-way within 1 mile of constructed wildlife crossings. Earthen ramps will be provided every 0.25 mile to allow animals that become trapped between fenced portions of the roadway to exit the corridor.
- Fencing will be placed in conjunction with high-volume big game crossing areas (see Figure 3-32, Mule Deer and Elk Seasonal Range and Big Game Crossings, in the Final EIS). These areas include MP 184 to MP 190, MP 195 to MP 198, MP 200 to MP 206, MP 210 to MP 211, MP 220 to MP 230, MP 233, and MP 240. The highest number of wildlife strikes occurs around MP 185 to MP 190, MP 205, MP 210 to MP 230, MP 220, and MP 233 to MP 240 (which is between Helper and Price).
- In Lower Spanish Fork Canyon (MP 179 to MP 188), big game move daily in the winter from south-facing slopes across the highway to access the Spanish Fork River. If fencing is installed in this area, water sources will be made available on the north side of US 6.

#### **Wildlife Overpasses and Underpasses Measures**

Appendix F, Potential Wildlife Crossings, in the Final EIS identifies by milepost the culverts and bridges that, with minor modifications, could be used to create wildlife underpasses. These options will be considered in conjunction with the high-volume big game crossing areas noted above. In addition, crossings for other types of wildlife such as small mammals and amphibians will be considered. If modifications are made to a section of US 6 that require improvements to existing culverts and bridges, the measures listed in Appendix F for these structures will be considered.

Two potential big game overpass locations were identified by UDWR and USFWS. One overpass could be located between MP 203 and MP 205 and the other near MP 217/MP 218. Appendix F identifies potential locations for constructed wildlife overpasses near these locations and will be used as a starting point. Final crossing locations will be determined by the wildlife coordination



committee. As discussed above, fencing will need to be installed along with these overpasses. Other wildlife overpasses will be considered by the wildlife coordination committee.

### **4.11 Floodplains (Page 4-178 of the Final EIS)**

Where a larger-capacity stream crossing would reduce maintenance, improve wildlife habitat, improve water quality, or reduce the risk of flooding, the entire culvert or bridge would be replaced. Based on UDOT design criteria, these new crossings will be designed to accommodate a 50-year flood. In cases where a local community has a FEMA floodplain program, the flooding risks and the 100-year design frequency will also be evaluated for the design of the crossing. Decisions for significant stream crossing modifications will consider downstream floodplain impacts. To decrease the risk of traffic interruptions, the existing roadway grade near the Tucker rest stop will be raised and Clear Creek near the rest stop will be channelized. In addition, the US 6 bridge over the Price River at Woodside will be raised above the 50-year flood elevation.

## **4.12 Threatened and Endangered Species (Page 4-182 of the Final EIS)**

### **4.12.1 U.S. Fish and Wildlife Service Biological Opinion**

FHWA provided a Biological Assessment to USFWS on June 16, 2004, with a request for formal consultation. The Biological Assessment requested formal consultation based on a determination that the US 6 project was may affect, but was not likely to adversely affect clay phacelia, Ute ladies'-tresses, bonytail, Colorado pikeminnow, humpback chub, and razorback sucker. The Biological Assessment also requested USFWS's concurrence with a determination that the US 6 project would have no effect on the June sucker, bald eagle, western yellow-billed cuckoo, and black-footed ferret.

USFWS provided FHWA, the lead federal agency, with a biological opinion for the US 6 project on August 26, 2004 (see page H-50 of Appendix H, Pertinent Correspondence, in the Final EIS). USFWS concurred with the FHWA findings on all species evaluated in the Biological Assessment. The biological opinion noted that additional surveys of known and suitable habitat for Ute ladies'-tresses and clay phacelia will occur during the appropriate flowering season prior to construction. Based on information provided in the Biological Assessment, BMPs will be implemented during construction to mitigate for surface water impacts.

### **4.12.2 Plants**

Based on field surveys conducted for the US 6 project, seven plant species were determined to have a high potential of occurring in the threatened and endangered species (TES) study area. Measures to minimize impacts to these species are listed below.

Monitoring near the existing clay phacelia and Ute ladies'-tresses populations will occur during construction. Monitoring of the Creutzfeldt-flower habitat near the proposed port of entry site will also occur during construction.

Rehabilitating disturbed sites will closely follow construction activities to reduce the opportunity for weed invasions. Site-specific weed prevention/eradication plans will be developed for disturbed areas in or adjacent to the plants listed below.

#### **Ute Ladies'-Tresses**

Based on surveys conducted in 2001, no *existing* colonies of Ute ladies'-tresses would be affected by the Selected Alternative. However, because construction

would occur over 10 to 20 years, the species could possibly colonize the project area before construction. Additional surveys of known and suitable habitat (at about MP 178.5 to MP 209 and MP 223.5 to MP 229.5) will be conducted before construction in these areas. The following measures will be implemented and coordinated with USFWS at that time:

- Determine possible direct or indirect effects by flagging the boundary of ground disturbance in the construction area of both known and suitable Ute ladies'-tresses habitat.
- Conduct a new survey for Ute ladies'-tresses during its flowering season (August through September).
- Generate maps indicating both current GPS (global positioning system) locations of individual plants/colonies as well as historic occurrences.
- If plants would be impacted by either construction or changes in hydrology, determine whether the design can be modified to avoid impacts.
- Consult with USFWS regarding any expected impacts and, if necessary, develop additional conservation measures. Such measures, among others, could include avoidance, protection for currently unprotected colonies, habitat enhancement and/or restoration, research on habitat requirements and life history, re-establishment of individuals into other locations of suitable habitat, and seed bank conservation.
- Disturbed sites will be rehabilitated immediately after construction to reduce the opportunity for weed invasions. Site-specific weed prevention/eradication plans will be developed for disturbed areas in or adjacent to potential Ute ladies'-tresses habitat. These plans will include seed mixes to be used in revegetating disturbed sites and the distance from known locations of Ute ladies'-tresses colonies at which to implement the mitigation.

#### **Creutzfeldt-Flower**

Salt desert scrub habitat in and adjacent to the proposed port of entry site at MP 239.5 provides suitable habitat for Creutzfeldt-flower. Clearance surveys will be conducted in these areas before the port of entry is constructed. Surveys will be performed during the flowering period, which occurs from April through May. If individual plants are identified, UDOT will consult with USFWS to identify reasonable and prudent alternatives and mitigation measures designed to avoid, minimize, or mitigate impacts to this sensitive species. Mitigation could include

re-establishing individuals into other areas containing suitable habitat and creating a seed bank.

### **Clay Phacelia**

With the exception of an approved passing lane project between MP 196.8 and MP 198.9, the segments of US 6 that are within suitable clay phacelia habitat (about MP 193 to MP 210) might not be reconstructed for several years. A detailed survey and impact analysis for clay phacelia will be performed when these road segments are undergoing final design prior to construction. This approach will ensure that any future changes in habitat or in the distribution of individuals are accounted for.

A field meeting was held with USFWS and The Nature Conservancy discuss the impacts from the US 6 project and potential mitigation measures (see Appendix H, Pertinent Correspondence). Based on this meeting, the following measures will be implemented and coordinated with USFWS and The Nature Conservancy during the design, construction, and mitigation phases of the project occurring near the Tucker rest area:

- Determine the extent of ground disturbance by flagging the boundary of the construction area in relation to The Nature Conservancy's preserve.
- Conduct a new survey for clay phacelia during its flowering season (June through July). Generate maps indicating both current GPS locations of individual plants as well as historic occurrences.
- If plants would be impacted, determine if the design can be modified to avoid impacts.
- Consult with USFWS and The Nature Conservancy regarding any impacts and, if necessary, develop mitigation measures. Such measures could include avoiding the area, re-establishing individuals into other locations with suitable habitat, and creating a seed bank.
- Design and implement a mutually agreed-upon revegetation and weed management plan with USFWS, The Nature Conservancy, and the Uinta National Forest. This plan will include seed mixes to be used in revegetating disturbed sites and the distance from the habitat in which to implement the mitigation.

#### **4.12.3 TES Fish**

The Selected Alternative would not encroach on live stream channels, so there would be no direct, long-term impacts to existing aquatic habitats and TES fish. However, replacing bridges and culverts that cross fishery-supporting waters could cause direct, short-term impacts to fisheries during construction. These new bridges and culverts would replace existing structures with structures of the same or greater size and would be designed to have no long-term negative impacts on fisheries. Replacement culverts would be constructed to allow for fish passage, which would result in a long-term beneficial effect on fisheries in areas where fish passage is currently limited.

#### **4.12.4 TES Amphibians and Reptiles**

The only known TES amphibian population associated with US 6 is a Columbian spotted frog population located in a large wetland at the mouth of Diamond Fork Canyon. The Selected Alternative would not impact the section of US 6 that crosses the mouth of Diamond Fork Canyon.

#### **4.12.5 TES Birds**

The Selected Alternative is not expected to have any short-term or long-term population-level impacts to TES bird species. The bird species that occur in the area include the ferruginous hawk, burrowing owl, greater sage-grouse, northern goshawk, golden eagle, peregrine falcon, western yellow-billed cuckoo, and loggerhead shrike.

Direct impacts to most nesting birds can be avoided by clearing vegetation between September and February, outside of most birds' breeding, nesting, and brood-rearing seasons. When it is not possible to clear the vegetation from construction sites during this period, a biologist will be onsite during construction to monitor for nests to avoid impacts and, if a nest is found, to temporarily halt construction until after the young have permanently left the nest. UDOT or the construction contractor may be required to obtain a permit from USFWS under the Migratory Bird Treaty Act to authorize the take of migratory birds.

Burrowing owls are not listed under the Endangered Species Act; therefore, no formal consultation with USFWS is required for this species. However, potential burrowing owl habitat will be surveyed during the appropriate biological season (April through June) before construction. If burrowing owls are found in the construction area, UDOT will coordinate with USFWS to avoid or minimize impacts.

#### **4.12.6 TES Mammals**

The Selected Alternative has the potential to impact black-footed ferret habitat and suitable habitat for the Townsend's big-eared bat. Immediately before beginning construction, ferret surveys will be conducted (during one of the fall or winter survey periods) in prairie dog towns that would be impacted by construction. If ferrets are found, UDOT will consult with USFWS. Potential mitigation options include relocating ferrets and, if possible, making minor alignment shifts such as adding retaining walls. Earth-moving activities will be conducted between mid-April and mid-October when prairie dogs are active and are more able to escape the destruction of their burrows.

Before making large cuts in steep canyons (Red Narrows from MP 191 to MP 193 and Price Canyon from MP 222 to 231), the contractor will inspect affected areas for caves and abandoned mine openings. If present, these features will be surveyed for Townsend's big-eared bats. If bats are present, impacts to occupied openings will be avoided or minimized to the extent practicable. If direct impacts to occupied openings are unavoidable, bats will be evacuated in consultation with USFWS before construction begins.

### **4.13 Historic, Archaeological, and Paleontological Resources (Page 4-203 of the Final EIS)**

#### **4.13.1 Historic Architectural Properties**

Under the Selected Alternative, 38 historic architectural properties that are eligible for listing on the National Register of Historic Places (NRHP) were identified. Of these properties, 3 would be adversely affected, 8 would experience no adverse effect, and 27 would experience no effect. The adverse effects to these historic properties are taken into account by FHWA and UDOT through the executed Memorandum of Agreement with SHPO, the federal Advisory Council on Historic Preservation, affected agencies, and consulting parties identified under Section 106 (see Appendix G, Cultural Resources, in the Final EIS). Historic architectural properties with an adverse effect (3 total) will be mitigated by documenting the properties to state standards.

One property, 1906 E. Main Street in Wellington, would be physically destroyed by the Selected Alternative. The property is a concrete block four-square built in 1905. Marketing of this historic building is not considered to be the best use of public funds. In addition, the building's rigid construction and poor condition make it difficult to relocate. An archival documentation plan will be developed in consultation with SHPO and other interested consulting parties.

#### 4.13.2 Archaeological Sites

Under the Selected Alternative, 38 NRHP-eligible archaeological sites were identified within the project's area of potential effect. Of these sites, 10 would be adversely affected, 5 would experience no adverse effect, and 23 would experience no effect. The adverse effects on archaeological sites are taken into account by FHWA and UDOT through the executed Memorandum of Agreement with SHPO, the federal Advisory Council on Historic Preservation, affected agencies, and consulting parties identified under Section 106 (see Appendix G, Cultural Resources, in the Final EIS).

For most of the adversely affected sites, the proposed mitigation includes testing or data recovery for the sites in advance of construction and/or archival documentation for the sites that are eligible for the NRHP under criteria other than their information potential alone. The Memorandum of Agreement requires a written data recovery/testing plan for individual sites that will be submitted for review and approval by the consulting parties and SHPO before data recovery/testing is implemented. If a site is within a 15-foot range of mapping error, it will be staked before the adjacent highway segment is under construction to determine whether the site will be affected by construction. If the site will be affected, it will go through data recovery under the data recovery/testing plan.

Eligible sites proposed for testing as a mitigation measure will be assessed to determine whether they retain integrity and have data potential in the area of effect. If a site is found to yield important data, it will go through data recovery according to a standard treatment plan. If an NRHP-eligible site would experience no effects from construction, temporary fencing will be installed around the site to prevent workers and equipment from accidentally encroaching on the site.

The Final EIS recommends archaeological monitoring of construction excavations from MP 250 on the west side of Soldier Creek to MP 264 on the east side of Iceland Creek. These areas are deemed to have a high potential for buried sites with no surface indicators. Any archaeological monitoring will be conducted by persons who meet or exceed the Secretary of the Interior's Standards for Qualifications. This monitoring will be included in the scope of work for the data recovery/testing plan.

### 4.13.3 Paleontological Resources

The Selected Alternative would cause impacts to one important paleontological site (Ut488v). Another site (Ut483t), a dinosaur footprint, is rated as significant and is of scientific interest. To minimize impacts, the following mitigation measures will be implemented:

- **Collection of Dinosaur Footprint (Ut483t) and Turtle Scute (Ut488v).** The dinosaur footprint is of scientific interest, although it is poorly preserved. UDOT will coordinate with the Utah Geological Survey (UGS) to arrange for collection of the identified dinosaur track before construction. UDOT will work with UGS to identify an appropriate curation facility for the specimen. The turtle scute (a fragment of fossilized turtle shell) is also of scientific interest and has been collected. UDOT will work with UGS to identify an appropriate curation facility for this specimen as well. Accompanying geologic data and locality data sheets will also be submitted for each specimen.
- **Worker Instruction.** Construction personnel will be instructed about the types of fossils they could encounter and the steps to take if they uncover fossils during construction. Instruction will stress the nonrenewable nature of paleontological resources and that collecting or excavating vertebrate fossil materials (including fossil tracks) from federal land without a federal permit is illegal, that fossils are part of Utah's prehistoric heritage, and that fossils should be preserved for study.
- **Excavation Monitoring.** Because of the potential to discover significant fossils, excavation affecting bedrock of the Green River Formation (MP 193.8 to MP 204.5 and MP 221.2 to MP 221.9), North Horn Formation (MP 221.9 to MP 224.1), Blackhawk Formation (MP 227.9 to MP 230.2), early Eocene Colton Formation (MP 204.5 to MP 221.2), late Cretaceous Castlegate Sandstone Formation (MP 226.5 to MP 227.9), Mancos Shale Formation (MP 251.2 to MP 252.5), Price River Formation (MP 224.1 to MP 226.5), and Triassic Ankareh Formation (MP 183.9 to MP 184.9) along the highway corridor project will be monitored by a trained paleontologist whose qualifications are acceptable to the agencies that have jurisdiction over the lands involved.
- **Discovery Contingency.** If suspected fossil materials are uncovered during construction, the operator will redirect work immediately so that the monitoring paleontologist can evaluate the discovery. After making an initial determination, the monitoring paleontologist will contact the



agency administrative officer, who will assess the situation and advise where any mitigating measures need to be undertaken.

- **Collection and Curation.** If any fossil specimens of scientific significance are discovered during monitoring, they will be collected using standard paleontological techniques. The need for additional collection (for example, matrix for microvertebrate analysis) will be determined by consultation with the agencies and project proponent. If any specimens are collected as a result of monitoring, they will be prepared, identified, and curated into the collections of a museum repository acceptable to the agencies involved. Accompanying geologic data and locality data sheets will also be submitted.
- **Reporting.** If scientifically significant fossils are collected and accessioned into a museum repository as a result of monitoring, UDOT will prepare a final report detailing the specimens and scientific significance. If no fossil resources are discovered during monitoring, UDOT will prepare a short letter report documenting the work conducted. If UDOT submits a final report and specimen inventory and the agencies involved accept the report and specimens, this will complete the program to mitigate paleontological resources for the project.

UDOT Standard CSI 01355 Environmental Protection Part 1.10, Discovery of Historic, Archaeological, and Paleontological Resources, applies to this project and stipulates instructions to the contractor for protecting resources discovered in the course of construction. Should a discovery occur, UDOT will consult with UGS and relevant consulting parties to develop and implement an appropriate treatment plan before resuming construction.

### 4.13.4 Traditional Cultural Properties

The Selected Alternative would not impact any traditional cultural properties. Mitigation measures to prevent adverse effects on traditional cultural properties that could be discovered have been taken into account by FHWA and UDOT through the execution of a MOA in consultation with the SHPO, the Federal Advisory Council, affected agencies, and consulting parties identified under Section 106.

A dirt two-track road provides access from US 6 to a traditional cultural property identified by the Uintah-Ouray Ute Tribe. UDOT has agreed to place a concrete jersey barrier across this road to restrict access to the property.

#### 4.14 Hazardous Waste Sites (Page 4-213 of the Final EIS)

The majority of hazardous waste sites along the US 6 corridor are located in areas of the highway that are already four lanes. However, there are some areas of concern within the potential construction zone:

- Ensign-Bickford - Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), UTD041310962
- Denver & Rio Grande Western Rail Yard - Leaking Underground Storage Tanks database (LUST), U003151676
- Abandoned aboveground storage tank (AST) - LUST, S102902391
- Castle Gate Coal Mine - MINES database, M100108416, and Castle Gate Landfill - Solid Waste Landfills database (SWLF), U001887528
- Utah Power Carbon Plant - CERCLIS, UTT50001011
- Gas-O-Rama - LUST, U000813901, Maverik #248 - LUST, U000559649, and Swift Stop & Shop - LUST, U000813908
- Price Industrial Complex - LUST, U000813944, Fairmont Supply - LUST, U000813928, and Price City Public Works - LUST, U000559573
- Railroad tracks adjacent to US 6

At the time of construction, coordination will be conducted between UDOT, the Utah Division of Environmental Remediation and Response (DERR) or EPA, the construction contractor, and the appropriate property owners. This coordination will involve determining the status of the sites of concern, identifying newly created sites, identifying the nature and extent of remaining contamination (if any), and minimizing the risk to all parties involved. Environmental site assessments will be conducted at Castle Gate Coal Mine (Willow Creek Coal Mine) and Utah Power Carbon Plant to further evaluate the potential for encountering hazardous waste when realigning US 191.

Measures will be implemented to prevent the spread of contamination and to limit worker exposure. Site investigations will determine the chemical hazard, if any, and the appropriate protection measures. In the case of an identified chemical hazard, the site remedy will be negotiated through coordination with DERR and/or EPA.

Previously unidentified sites or contamination could be encountered during construction. In such a case, all work will stop in the area of the contamination according to UDOT Standard Specifications, and the contractor will consult with

UDOT and DERR to determine the appropriate remedial measures. Hazardous wastes will be handled according to UDOT Standard Specifications and the requirements and regulations of UDEQ and EPA.

### 4.15 Visual Resources (Page 4-219 of the Final EIS)

Under the Selected Alternative, short-term construction-related impacts in the US 6 study area would include construction vehicle activity and accompanying staging areas, stockpiling of excavated material, traffic congestion, and construction-related dust. The long-term visual impacts from the Selected Alternative would result from increased pavement width including cut-and-fill slopes; loss of mature trees and vegetation; replacement of existing bridges, interchanges, right-of-way fencing, and drainage structures; and the potential addition of big game overpasses and underpasses at several locations. However, these impacts would occur along the existing highway and would not involve creating a new transportation corridor in the study area. Therefore, the roadway improvements would not substantially alter the existing visual character of the area.

All structural elements such as walls, bridges, and tunnels will be developed to harmonize with existing structures and other landscape elements in the US 6 corridor. For instance, visual impacts to slope lengths can be minimized by leaving native boulders in place or by adding additional boulders to the slope. This practice will provide erosion control and add visual interest to the slope. Mitigation for slope cuts in rolling topography can be accomplished using the following techniques:

- Slope rounding
- Undulating the face
- Constant distance

Slope cuts can be further softened and stabilized by mulching the stripped vegetation and reapplying the mulch to the slope. The final design will be coordinated with UDOT landscape architects. In addition, any slope cuts on public land administered by BLM or the Forest Service will be mitigated and restored to the original visual resource management (VRM) objective or visual quality objective for that location as specified in the most recent Resource Management Plan or Forest Plan.

After project construction, cut-and-fill areas will be landscaped with appropriate native vegetation where practicable. Rock cuts and retaining walls will also change the topography next to the roadway in several areas. UDOT will implement aesthetic treatments in these areas to make them appear as natural as

reasonably possible in an effort to maintain the visual quality objectives and VRM objectives.

Where guardrails or roadway barriers are required, aesthetically pleasing materials will be used that are consistent with the character of the project corridor and other roadway elements to the extent practicable. Cable barriers will be used where feasible to meet safety requirements. Cable barrier design allows highway users to see through the barrier so that it obstructs views only minimally while still providing adequate safety functions.

### **4.16 Construction Impacts (Page 4-234 of the Final EIS)**

Construction could result in both short-term temporary and permanent impacts to air quality, water quality, wetlands, noise levels, cultural resources, wildlife, traffic flow, utility service, and visual resources. The nature and timing of these impacts would be related to the project's construction methods and sequencing. As proposed, the improvements would be made to US 6 over a 20-year period as funding becomes available. Most of the improvements would be made in unpopulated areas, so ground-disturbing activities would cause few impacts to residents near US 6. Most construction-related impacts to the public would be associated with travel delays. Specific mitigation measures to address these impacts are discussed below.

#### **4.16.1 Public Impacts Mitigation**

To minimize public impacts, a thorough public information program will be implemented to alert the community of construction activities. Information will include work hours and alternate routes. Construction signs will be used to notify motorists about work activities and changes in traffic patterns. In addition, night and weekend work could be scheduled to shorten the duration of construction impacts as long as permit requirements are satisfied.

Impacts from lights used during nighttime construction will be minimized by aiming construction lights directly at the work area and/or shielding the lights to avoid disturbing nearby residences. Construction activities will be limited at certain times to protect threatened and endangered species. Utility agreements will be completed to coordinate utility relocation.

To reduce temporary noise impacts associated with construction, contractors will comply with all state and local regulations relating to construction noise. Measures for reducing construction noise include avoiding construction in residential areas during nighttime hours, locating rock-crushing activities away

from residential areas, and placing temporary barriers. Each construction area will be evaluated for the appropriate measures to use.

### 4.16.2 Air Quality Mitigation

Air emission mitigation measures for construction will be developed as part of the Emission Control Plan submitted to the State of Utah. Mitigation measures will include the following:

- **Fugitive Dust Control.** The contractor will maintain a fugitive dust control program. This program will include wetting excavation areas, unpaved parking and staging areas, and onsite stockpiles of debris, dirt, or dusty material.
- **Street Sweeping.** The contractor will use street-sweeping equipment at paved site access points.
- **Equipment Emissions.** The contractor will shut off construction equipment when not in direct use to reduce idling.

Other mitigation measures that could be implemented to minimize air quality impacts include the following:

- Use newer, cleaner-emitting construction equipment and properly maintain the equipment.
- Install control equipment on diesel construction equipment (such as particulate filters/traps, oxidizing soot filters, and oxidation catalysts) to the extent that is technically feasible.
- Reroute truck traffic away from schools and communities when possible.
- Evaluate the use of alternative engines and diesel fuels such as electric engines, engines that use liquefied or compressed natural gas, diesel engines that meet EPA 2007 regulations, diesel engines fueled with low-sulfur fuel, and diesel engines outfitted with catalyzed diesel particulate filters and fueled with low-sulfur fuel (less than 15 ppm sulfur).

### 4.16.3 Cultural Resource Mitigation

If cultural resources are discovered during construction, activities in the area of the discovery will immediately stop. The contractor will notify UDOT of the nature and exact location of the finding and will not damage or remove the resource. Construction will not resume until the contractor receives written authorization from UDOT to continue.

#### **4.17 Permits, Certifications, and Approvals (Page 4-241 of the Final EIS)**

Permits and certifications required include a Floodplain Development Permit granted by the local municipalities where floodplains will be impacted, a Section 404 permit granted by USACE, a Section 401 Certification granted by the Utah Division of Water Quality, a Section 402 Permit (UPDES) granted by the Utah Division of Water Quality, an Air Quality Approval Order granted by the Utah Division of Air Quality, a Water Rights permit from the Utah Division of Water Resources, and, if necessary for fill material, a Material Site Right-of-Way Permit from BLM. Additional permit requirements are discussed in Section 4.23, Permits and Clearances, of the Final EIS.

## 5.0 Monitoring and Enforcement Program

This Record of Decision represents a commitment to monitor and enforce the measures described above to minimize harm to the surrounding environment. All of the mitigation measures listed above and identified in the Final EIS will be incorporated into the contract(s), plan(s), and specifications and will be monitored according to the construction/post-construction monitoring plans. Enforcement of the contract provisions and monitoring of the project is the responsibility of the selected UDOT Project Manager. As discussed under Section 4.10, Water Body Modification and Wildlife Impacts, FHWA and UDOT are in the process of establishing a wildlife coordination committee to improve coordination among the transportation agencies charged with improving US 6, the resource agencies charged with protecting the natural environment, and the regulatory agencies charged with balancing the various public interests, and to obtain better results from funds spent to compensate for impacts to biological resources.

## 6.0 Statute of Limitations

A Federal agency may publish a notice in the Federal Register, pursuant to 23 USC 139(I), indicating that one or more Federal agencies have taken final action on permits, licenses, or approvals for a transportation project. If such notice is published, claims seeking judicial review of those Federal agency actions will be barred unless such claims are filed within 180 days after the date of publication of the notice, or within such shorter time period as is specified in the Federal laws pursuant to which judicial review of the Federal agency action is allowed. If no notice is published, then the periods of time that otherwise are provided by the Federal laws governing such claims will apply.



## 7.0 Final EIS Comments and Responses

### US 6 FEIS DRAFT RESPONSE TO COMMENTS

November 2005

Comment Number	Commenter	Comment and Response
P-001-01	Jeffrey Hansen, M.D.	<p><i>Comment:</i> Regarding the proposed Highway 6 expansion in Utah, I think it is outrageous to put human lives at risk by limiting the expansion to three lanes in some areas, in order to save a few acres of wetland.</p> <p>I agree that we need to carefully assess the impact of what we do on our natural resources, but the acreage lost here to the highway seems like a small price to pay for the increased safety of a four-lane highway. I urge you to put human safety first in this decision.</p> <p><i>Response:</i> The U.S. Army Corps of Engineers is required to permit the least environmentally damaging practicable alternative. In the case of the US 6 project, both the Passing Lane and Four Lane Alternatives were considered "practicable" since they both met the purpose and need of the project. Therefore, the Four Lane Alternative was modified in certain wetland areas to match the width of the passing lane in order for FHWA and UDOT to be granted a 404 permit. Once all projects along the corridor are completed, the highway will be Four Lanes for all but about 12 of the 127 miles. The highway will be 2 or 3 lanes in these 12 miles. In addition, both the Passing Lane and Four Lane Alternatives incorporate design measures that will upgrade existing design elements to current design standards to improve safety and median barriers or other median treatments will be added to reduce fatal crossover accidents. Without the 404 permit from the Corps of Engineers, FHWA and UDOT would not be able to proceed with any US 6 improvements.</p>
P-002-01	Lynna Topolovec	<p><i>Comment:</i> The section of the project relating to the port of entry raised issues from my perspective. The option of putting the port of entry just south of Helper has issues with wildlife and human life. This will increase the noise considerably in the Spring Glen area as trucks are driving thru, braking, and idling at the proposed port of entry. This will also increase the amount of diesel particulates in the area.</p> <p>Since this is also an area of a great deal of wildlife, it will make it even more challenging for the deer to cross not only 4 lanes of traffic, but all of the lanes for the proposed port traffic. How will all of these issues be taken care of?</p> <p><i>Response:</i> The amount of noise from trucks entering and exiting the port of entry would be small and would be masked by the background noise of other traffic moving at free-flow speeds on US 6. In addition, most residential properties are at least 0.25 mile from the proposed port of entry. The proposed port of entry would use a transponder system, which would actually reduce the number of trucks required to stop or wait at the port to be weighed. Use of the transponder system would reduce air quality impacts from trucks idling at the current port of entry. Air quality analysis conducted for the US 6 improvements did not show any areas where standards would be exceeded.</p>

Comment Number	Commenter	Comment and Response
P-002-02		<p>The EIS states that since the proposed port of entry location would impact mostly agricultural lands, it would have little or no effect on deer or elk habitat. The EIS does acknowledge that the proposed location is within a known deer movement corridor and, in the absence of mitigation, the port of entry could interfere with these movements leading to increased wildlife-human conflicts and vehicle-wildlife collisions. Section 4.12.4.3 of the EIS, Mitigation Measures for Impacts to Wildlife, commits to a variety of mitigation measures that are designed to minimize impacts to big game. These measures include the incorporation of various wildlife crossing measures along the corridor including median barriers, fencing and wildlife overpasses and underpasses. FHWA and UDOT will work closely with the USFWS, UDWR and BLM to develop the best measures in specific locations.</p> <p><i>Comment:</i> I would suggest that the location of the proposed port of entry be moved to a location where it is not going to have so many impacts to wildlife, farming, and residential areas. Perhaps just south of the current port of entry, but north of Martin would be better. The property in question does not have anything on it currently and is not being farmed. Another alternative would be to place the port of entry outside of Wellington where there aren't any homes.</p> <p><i>Response:</i> The port of entry locations considered in the EIS were chosen to address the primary purpose of the facility, which is to capture local (coal trucks) traffic, US 6 truck traffic, and SR 10 truck traffic while maximizing safety. Locations such as south of Wellington would not serve this purpose. The location immediately south of the current port of entry would have topographic limitations, limited sight distance (safety concerns), and would not serve local truck traffic.</p> <p>Since this port of entry location is associated with the Spring Glen interchange, any potential impacts to wildlife, farmland and residences are not actually a result of the port of entry facility, but instead a result of the interchange.</p> <p>As discussed above in comment P-002-01, potential impacts to wildlife will be mitigated for via implementation of median barriers, wildlife fencing, and wildlife overpasses and underpasses. FHWA and UDOT will work with any farmer who may be impacted by the proposed Interchange on a case-by-case basis to determine the farm's eligibility for benefits under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (URAA). Generally, UDOT will provide compensation for the expense of re-establishing farm enterprises and for fair market value of the buildings and land. Similarly, assistance and re-establishment expenses would be provided to displaced property owners and leaseholders according to the eligibility requirements and other requirements of the URAA.</p>
P-002-03		<p><i>Comment:</i> The second issue is the proposed on-ramp extending from the Kenilworth road. Rather than taking productive farm ground and wildlife habitat, I would suggest that we make use of the current overpass at the start of Carbonville. I would suggest that the road coming out of Spring Glen at the Blue Cut could be extended south to meet up with the Carbonville road (Old highway 6). The overpass that currently exists would only need on and off ramps put in place. With the amount of development that is planned for the golf course area, it is likely that the ramps are going to be needed anyway.</p>

## 7.0 Final EIS Comments and Responses

Comment Number	Commenter	Comment and Response
		<p>For the short term, I would suggest that we make better use of the exit options into the Spring Glen area. Since the bridge is being replaced on the old Gordon Creek road, there is a possibility to delete the south bound left turn lane into Spring Glen at the Blue Cut and move it up to the old Gordon Creek road. That would allow for easier access onto Highway 6 from the Blue Cut.</p> <p>I would also suggest that the ramps be completed on the overpass which is near the Westwood area. This could also bring traffic out of the Carbonville area.</p> <p><i>Response:</i> The Spring Glen interchange location was chosen to provide a direct connection to SR 157 and eliminate the safety concern at SR 139 and US 6. An interchange near the golf course would require realignment of the Price River and substantial impacts to the public golf course. Under U.S. Department of Transportation regulations impacts to public recreational facilities must be avoided if there is a prudent and feasible alternative (such as the proposed Spring Glen Interchange). Adding off and on ramps at the overpass at Carbonville would require UDOT to construct an interchange to current standards. This interchange would result in extensive wetland impacts because of the river in that area. The interchange would also result in relocations, conflict with North Carbonville Road, and require extensive modification to US 6 to meet safety requirements because of the existing curve in that area.</p> <p>To meet the project purpose, safety improvements to US 6 were considered. Additional access points such as an interchange at Westwood were reviewed but determined to be more of a local access as opposed to a safety requirement for US 6; therefore it was not considered in detail.</p>
P-003-01	Lisa and Andrew Rose	<p><i>Comment:</i> We are the owners of the Sinclair gas station and RV park at Sheep Creek Junction. In the newsletter we received, we noticed that the Tucker rest area is slated to be moved. Since that rest area is closed much of the time, we already service hundreds of travelers who use our facilities without purchasing anything. This is a costly venture as you may imagine. We are very interested in either selling a portion of our property on which you could construct restroom facilities at a significantly lower price due to the fact that the septic system is already in place.</p> <p>We are also aware that UDOT currently pays to have the Tucker rest stop maintained. We would like to provide this service. If this is not possible, we would like to have a private/business partnership where we could at least be compensated for necessary supplies, maintenance, etc. and advertisement.</p> <p><i>Response:</i> FHWA and UDOT considered two alternatives for relocating the Tucker Rest area: one near milepost 203.5 across from the existing rest area and the second at milepost 202.1 near Sky View. UDOT is still in the process of deciding which option would meet the needs of the traveling public and UDOT. UDOT will consider your comment in making a final decision on the rest area location.</p>
P-003-02		<p><i>Comment:</i> We have already expressed our grave concerns of the deafening noise that this highway creates to us and our overnight guests. We need a sound barrier and the rumble strips removed.</p> <p><i>Response:</i> Under the build alternatives, noise along the corridor is expected to increase by 2 to 4 dBA. As a point of reference, a noise level change of 3 dBA is barely noticeable to humans, while a 5-</p>

Comment Number	Commenter	Comment and Response
P-003-03		<p>dBa increase is distinguishable. Under UDOT's noise abatement criteria, for a noise wall to be considered, it must provide at least a 5-dBA reduction in noise to the benefiting properties and the cost of the wall cannot exceed \$25,000 per property owner. Because the wall would have to provide an opening for access to your business, the noise wall would be ineffective in reducing noise by 5 dBA. The gap would allow the noise to "seep" around the wall. Additionally, because yours would be the only benefiting property, the cost of the wall would exceed the limits set by UDOT's noise abatement criteria.</p> <p>In June 2005, a report entitled, "Evaluation of Four Recent Traffic and Safety Initiatives, Volume III: Centerline Rumble Strips on Rural, Two-Way, Undivided Highways" was prepared for UDOT by the BYU Department of Civil and Environmental Engineering. This report states that the combined results of a literature review, a public opinion survey and a state of the practice survey are in favor of centerline rumble strips. The report acknowledges noise pollution as being one negative component of rumble strips. However, the positive aspects including a considerable reduction in cross-over related accidents, injuries and fatalities, high benefit to cost ratios, and public approval and acceptance of centerline rumble strips outweigh the negative aspects such as noise.</p> <p><i>Comment:</i> Additionally, we need another entrance/exit off of the highway.</p> <p><i>Response:</i> US 6 is a regional limited access highway. Additional access points increase safety risk with traffic traveling at high speeds which would not meet the purpose of the project to improve safety. Therefore, new access points that did not improve safety were not considered in the EIS.</p>
P-004-01	Kathleen Thomas	<p><i>Comment:</i> It is too bad that politics and wetlands are more important than human lives. I urge you to complete this project in the next 10 years instead of the proposed 20 years.</p> <p><i>Response:</i> The U.S. Army Corps of Engineers is required to permit the least environmentally damaging practicable alternative. In the case of the US 6 project, both the Passing Lane and Four Lane Alternatives were considered "practicable" since they both met the purpose and need of the project. Therefore, the Four Lane Alternative was modified in certain wetland areas to match the width of the passing lane. Both the Passing Lane and Four Lane Alternatives incorporate design measures that will upgrade existing design elements to current design standards to improve safety and median barriers or other median treatments will be added to either alternative to reduce fatal crossover accidents.</p> <p>FHWA and UDOT will strive to complete as many projects along the corridor as quickly as possible. However, because of the high cost associated with improving the highway, construction will occur as funding becomes available and it will likely be 20 years before all projects along the entire corridor are completed.</p> <p><i>Comment:</i> I ask that you consider something such as barriers in the three lane areas to stop the head ons [collisions] (it's a shame it's not going to be 4 lanes.)</p> <p><i>Response:</i> As stated in the EIS, existing design elements will be upgraded to current design standards and median barriers or other median treatments will be added to reduce fatalities associated with crossover accidents in portions of the highway that will be three lanes.</p>
P-004-02		

## 7.0 Final EIS Comments and Responses

Comment Number	Commenter	Comment and Response
P-004-03		<p><i>Comment:</i> We do appreciate the improvements that have been completely finished and urge you on. We are extremely concerned about this dangerous highway. We pray we won't lose a family member while traveling on this highway.</p> <p><i>Response:</i> Comment noted.</p>
P-005-01	Wayne Jensen, Dan Morgan	<p><i>Comment:</i> US 6 should be better and safer for all.</p> <p><i>Response:</i> Comment noted.</p>
A-001-01	Patrick J. Gubbins, Field Manager Price Field Office, Bureau of Land Management	<p><i>Comment:</i> Chapter 4, Table 4.1-1, and following narrative, state the need for additional right-of-way (ROW) acreage from the Bureau of Land Management. It is our understanding, <u>but is not specified in the EIS</u>, that this additional ROW acreage would be acquired by the methods outlined in the Interagency Agreement between the Bureau of Land Management (BLM) and the Federal Highway Administration (FHWA) signed in July 1982. This Agreement outlines the procedures for appropriation of public lands by the FHWA under authority of Title 23 of the U.S. Code.</p> <p>It is also our understanding that the proposals for appropriation of this acreage would take place in site specific parcels, both for permanent and temporary use, allowing for four (4) months' processing time on the part of the BLM Price Field Office for each notification.</p> <p>Under the conditions outlined above, no further approval from the BLM is required for this FEIS. Please notify us as soon as possible if other procedures for acquisition of ROW would be necessary. Please continue, as you have in the past, to notify us through the appropriate UDOT Office of other projects which cross public land, even if appropriation of additional ROW is not necessary.</p> <p><i>Response:</i> Comment Noted.</p>
A-002-01	Margene Hackney, Castle Valley Chapter of USAS	<p><i>Comment:</i> Thank you for the opportunity to comment on the FEIS for the US 6 Project. The concerns of the Castle Valley Chapter of USAS have always been to protect the archaeological and cultural resources in Utah. The executive board members of CVAS were invited to provide comments on the study that was prepared by the Federal Highway Administration and the Department of Transportation. It is the consensus of the group that the cultural resources and archaeological sites will not be adversely affected by the proposed improvements to US 6 between I-15 and I-70. All three volumes with the detailed photos and maps have shown CVAS that much effort has gone into this project. It is a very well researched summary. Thank you for giving us the opportunity to comment on this project.</p> <p><i>Response:</i> Comment noted.</p>
A-003-01	John Harja, Executive Director, Resource Development Coordinating Committee, Public Lands Section, Office of the Governor	<p><i>Comment:</i> Division of Wildlife Resources. The big game road-kill data included in the FEIS are incorrect. The UDWR has provided more accurate data to FHWA and UDOT, and Jeff Berna of FHWA has stated that these new data will be included in the Record of Decision.</p> <p><i>Response:</i> FHWA and UDOT received and reviewed the more current UDWR information regarding wildlife strikes. The data contained in the Final EIS was the most accurate at the time of publication. As noted in the ROD, the data provided by UDWR will be used in developing wildlife mitigation in coordination with the Wildlife Advisory Committee.</p> <p><i>Comment:</i> We reiterate that Appendix F, "Potential Wildlife</p>

Comment Number	Commenter	Comment and Response
A-003-02		<p>Crossing Improvement Areas," is only a starting point for the location, number, type, and size of wildlife crossings that will be needed as the reconstruction of U.S. Highway 6 (US 6) proceeds. The newly established US 6 wildlife advisory committee will discuss crossings for each segment of US 6 as the reconstruction of that segment of road is planned. Some of the potential crossings listed in Appendix F may be unnecessary, and crossings in addition to those listed in the appendix may be needed. The incorrect road-kill data in the FEIS is one reason that the potential crossings listed in Appendix F may need revision.</p> <p><i>Response:</i> Appendix F, "Potential Wildlife Crossing Improvement Areas" was developed in conjunction with representatives from UDWR and the USFWS. As stated in the EIS, the appendix "identifies by milepost the culverts and bridges that, with minor modifications, could be used to create wildlife underpasses. These options should be considered in conjunction with the high-volume big game crossing areas noted above [in the EIS]." The newly developed Memorandum of Agreement (MOA) that establishes and describes the function of the wildlife advisory committee states that Appendix F "will be used as a starting point when the Committee reviews specific projects." In addition, the text at the beginning of Appendix F states that "not all of the improvements might be implemented. For example, if two listed improvements are close together, only one might be constructed along with appropriate fencing to funnel wildlife to that crossing area."</p>
A-003-03		<p><i>Comment:</i> Although it is not clearly stated in Appendix F, it is understood that in addition to wildlife crossing structures, the US 6 wildlife advisory committee will discuss other appropriate wildlife mitigation measures, such as big game-proof fencing that ties into wildlife crossing structures and escape ramps for big game animals trapped in the highway right of way.</p> <p><i>Response:</i> Page 4-173 of the EIS discusses fencing. The fencing measures discussed on this page were developed in conjunction with UDWR, USFWS and the US Forest Service. Although the EIS doesn't specifically mention escape ramps, the MOA developed for the wildlife advisory committee states that additional issues to be considered by the Committee will include, "consider[ation] of crossings for many types of wildlife, such as those for big game species, carnivores, small mammals, and amphibians; determine the locations and types of wildlife fencing and escape ramps; and additional funding from the agencies to enhance the mitigation measures."</p>
A-003-04		<p><i>Comment:</i> We commend FHWA and UDOT for their commitment to mitigate for direct impacts to important big game habitats. We note, however, that the FEIS contains no mitigation for habitat fragmentation or indirect impacts to big game habitats.</p> <p><i>Response:</i> NEPA does not require that FHWA and UDOT mitigate for the existing highway. Since the highway has been there for 60 years, it is not unreasonable to assume that big game have adjusted to some degree to the highway and the fragmentation that already occurs because of the highway. The project does not involve a new alignment but instead will simply increase the existing footprint. Because of the design and mitigation measures incorporated into the project, it is anticipated that habitat fragmentation will not be significant.</p> <p>Indirect impacts to big game habitat are considered in the Final EIS. Page 4-150 of the EIS discusses temporary indirect impacts</p>

Comment Number	Commenter	Comment and Response
A-003-05		<p>that would occur during construction. These areas would be revegetated with native species immediately following ground-disturbing activities. Page 4-154 discusses indirect impacts in the form of weed invasions that could occur following ground-disturbing activities. Section 4.12.2.4 of the EIS discusses at length the weed-control practices, mitigation and monitoring practices that will be implemented. In addition, as stated on Page 4-160 of the EIS, "As described in Section 4.11, Impacts to Wetlands/Waters of the U.S., it is anticipated that the wetland functions and water quality of wetlands and wildlife habitat in the study area would not deteriorate from existing conditions under the build alternatives. In addition, increased noise levels under the build alternatives would not reduce the quality of wildlife habitat in the study areas." As shown in Table 4.12-3 of the EIS, at a distance of more than 150 feet from the roadway, there would be virtually no difference in noise levels between the No-Action and build alternatives and thus no additional impacts to habitat. Finally, the increased pavement width resulting from the Selected Alternative may result in a higher number of deer/elk vehicle strikes. However, the mitigation measures discussed on pages 4-172 through 4-174 include median barriers, fencing and overpasses and underpasses all of which will be incorporated into the corridor as a means by which to reduce the number of animals crossing the highway.</p> <p><i>Comment:</i> Division of Air Quality. The proposed US 6 highway improvement project may require a permit, known as an Approval Order, from the Utah Division of Air Quality (UDAQ). If any rock crushing plants, asphalt plants, or concrete batch plants are located at the site, an Approval Order from the UDAQ will be required for operation of the equipment. A permit application, known as a Notice of Intent (NOI), should be submitted to the Executive Secretary at the UDAQ at 150 N. 1950 West, SLC, UT, 84116 for review according to Utah Air Quality Rule R307-401. Permit: Notice of Intent and Approval Order. In addition, the project is subject to R307-205-3, Fugitive Dust, since the project will have a short-term local impact on air quality due to the fugitive dust that is generated during the excavation and construction phases of the project. An Approval Order is not required solely for the control of fugitive dust, but steps need to be taken to minimize fugitive dust, such as, watering and/or chemical stabilization, providing vegetative or synthetic cover and windbreaks. A copy of the rules may be found at: <a href="http://www.rules.utah.gov/publicat/code/r307/r307.htm">www.rules.utah.gov/publicat/code/r307/r307.htm</a>.</p> <p><i>Response:</i> Comment noted. Section 4.23 of the EIS, Permits and Clearances, acknowledges the requirement of the Approval Order. Section 4.20.3.2 of the EIS, Air Quality Mitigation, discusses the air emission mitigation measures that will be developed as part of an Emission Control Plan that will be submitted to the State of Utah. Mitigation measures included in the Plan include fugitive dust control which will include wetting excavation areas, unpaved parking and staging areas, and onsite stockpiles of debris, dirt or dusty material.</p>
A-004-01	Larry Svoboda, Director, NEPA Program, Office of Ecosystems Protection and Remediation, EPA	<p><i>Comment:</i> The EPA rating for the preferred alternative, the four lane alternative, remains as EC-1 (Environmental Concerns – Adequate). The EC rating indicates that EPA's review has identified environmental impacts that should be avoided in order to fully protect the environment. We have enclosed a summary of EPA's rating criteria and definitions. The following are our remaining comments:</p> <p><b>Water Quality.</b> Of particular concern to EPA are the Price River</p>

Comment Number	Commenter	Comment and Response
		<p>and Soldier Creek, which run parallel to US 6 and are listed on the 303 (d) list as impaired waters. The segment of the Price River adjacent to the highway is listed as impaired for total dissolved solids (TDS) and has an approved TMDL. Soldier Creek is listed as impaired for sediment and phosphorus, with a TMDL due in 2006. The FEIS states that the four lane alternative would result in a decrease overall of TDS and TSS (see section 4.10.2.7). Information is included on permanent mitigation measures, focusing on reducing erosion. Monitoring is also incorporated to ensure the success of the mitigation measures, as well as mitigation for construction impacts. We would expect to see all these measures, including the monitoring, in the ROD.</p> <p>We reiterate that Utah's statewide general permit for construction stormwater cannot be used to permit stormwater discharges from construction activities where there is a potential to contribute to a violation of water quality standards or where there is a potential for exceeding load allocations provided in an existing TMDL. Individual permits for stormwater discharges will have to ensure compliance with existing TMDLs and state water quality standards. We suggest that the ROD state that an individual Utah Pollution Discharge Elimination System (UPDES) construction stormwater permit will be obtained which will address each of the pollutants of concern for which there is a TMDL or an existing water quality impairment.</p> <p>While we believe the document adequately addresses water quality concerns, we remain concerned that there be follow-through on the Best Management Practices (BMPs) and monitoring to ensure that these waters are not further impaired.</p> <p><i>Response:</i> All measures noted in the FEIS, including the monitoring, are reiterated in the ROD. In addition, the ROD states that an individual Utah Pollution Discharge Elimination System (UPDES) construction stormwater permit will be obtained which will address each of the pollutants of concern for which there is a TMDL or an existing water quality impairment.</p> <p><b>Air Quality. Airborne Lead:</b> EPA commented that many projects that disturb soil along existing highways built prior to the elimination of leaded gasoline have been shown to create airborne lead (Pb). We suggested that soil samples demonstrating the existence or absence of elevated lead levels in the highway right-of-way should be completed and any necessary mitigation program described. FHWA responded that sampling along other highways in Utah with much higher traffic volumes than US 6 was conducted in 2004 and showed lead concentrations between 28 and 78 milligrams of lead per kilogram of soil, and that it is expected that levels along US 6 would be below EPA's level of concern. This information should have been included in the FEIS along with the protocol used for the sampling and some explanation of why these samples would be representative of the soils in the US 6 project area.</p> <p><i>Response:</i> Page 7-274 of the FEIS describes that based on sampling conducted for other highways in Utah conducted in 2004, it is expected that lead concentrations along US 6 would be below EPA's typical level of concern and, therefore, no sampling is required. The samples collected in 2004 were collected by removing the surficial vegetative debris of ¼ to ½ inch thickness to expose the soil surface. Soil was dug from the cleared ground with a clean stainless steel spoon and placed in a dedicated, laboratory-cleaned glass jar. The samples were delivered to the laboratory</p>



## 7.0 Final EIS Comments and Responses

Comment Number	Commenter	Comment and Response
		<p>the same afternoon. The soil types along US 6 where the traffic volume is the highest is adjacent to I-15. The soils in this area consist of historic lake bed deposits similar to the samples that were taken along I-15 that were used for comparison.</p> <p><i>Comment:</i> Once again, we appreciate the efforts of FHWA and UDOT to address the issues we have raised. We want to express our opinion that having only pieces of our comment letter in Chapter 7, Comments on the DEIS, can be confusing. It could lead to comments taken out of context, or comments inadvertently not addressed. If you have questions on the enclosed comments, please contact Deborah Lebow of my staff at (303) 312-6223.</p> <p><i>Response:</i> The EPA comment letter was included in pages 7-175 through 7-178 of the FEIS in its entirety. On these pages, a scanned copy of the original letter contained the comment numbers, so that readers of the comments/response matrix could refer back to the original letter if they wished.</p>



## 8.0 Conclusion

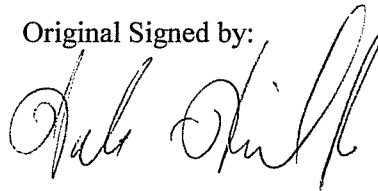
FHWA has determined that the Selected Alternative (Four Lane Alternative) best meets the transportation needs for the traveling public while effectively considering environmental, safety, and socioeconomic factors. This decision is based on the Final EIS and the entire project record.

In reaching our decision, FHWA has considered all of the issues raised in the record including the information contained in (and comments to) the Draft, Supplemental Draft, and Final EISs. The Selected Alternative was developed through a public process that included project adjustments to avoid and minimize environmental impacts. FHWA consulted with other federal and state agencies including BLM, USFWS, U.S. Forest Service, EPA, USACE, the Natural Resources Conservation Service, the Utah Department of Natural Resources, the Utah Division of Wildlife Resources, the Utah Department of Environmental Quality, the Utah State Historic Preservation Office, Advisory Council on Historic Preservation, and Native American Tribes. A full list of interagency coordination is included in the Final EIS.

Based on the analysis and evaluation in the Final EIS and after careful consideration of the social, economic, and environmental factors and input from the public involvement process, the FHWA approves the selection of the Four Lane Alternative for the project.

Date:

Original Signed by:



Division Administrator

Federal Highway Administration

